DOCUMENT RESUME

ED 466 766 CE 083 468

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TITLE	Learner Expectations and Experiences: An Examination of Student Views of Support in Online Learning.
INSTITUTION	National Centre for Vocational Education Research, Leabrook (Australia).
SPONS AGENCY	Australian National Training Authority, Melbourne.
ISBN	ISBN-1-74096-050-5; ISBN-1-74096-051-3
PUB DATE	2002-05-00
NOTE	106p.
AVAILABLE FROM	National Centre for Vocational Education Research, 252 Kensington Road, Leabrook, South Australia 5068, Australia (Cat. no. 806: $27.50 Australian). Tel: 08 8333 8400; Fax: 08 8331 9211; e-mail: vet_req@ncver.edu.au; Web site: http://www.ncver.edu.au. For full text: http://www.ncver.edu.au/research/proj/nr0F02.pdf.
PUB TYPE	Reports - Research (143) -- Tests/Questionnaires (160)
EDRS PRICE	EDRS Price MF01 Plus Postage. PC Not Available from EDRS
DESCRIPTORS	Adult Education; *Computer Mediated Communication; Distance Education; Educational Administration; Electronic Mail; Equal Education; Foreign Countries; Information Technology; Job Training; *Online Courses; Online Systems; Postsecondary Education; Program Effectiveness; Secondary Education; Student Attitudes; *Student Personnel Services; Teacher Attitudes; *Teacher Student Relationship; *Vocational Education
IDENTIFIERS	*Australia; Australia (Australian Capital Territory); Australia (New South Wales); Australia (Queensland); Australia (South Australia); Australia (Victoria)

ABSTRACT

A study explored expectations and experiences of online students in Australia's vocational education and training (VET) sector. Survey responses from 201 students in 23 private and public institutions indicated the need for information on course and module requirements and regular communication with teachers and tutors as priorities for successful completion of online learning. Students lacked the opportunity to complete all necessary administrative procedures online. Coordinator/teacher feedback indicated participating institutions provided online students with adequate information on course material and administrative procedures. Teachers/tutors highlighted a deficiency in the structures enabling students to assess their skills and suitability for undertaking online courses. Key issues for registered training organizations to consider included specific professional development for teachers/tutors involved in online delivery; allocation of dedicated staff to support online students so they are able to provide rapid response to inquiries; establishment of guidelines and directions for online students and teachers/tutors; and establishment of roles and responsibilities of students and teachers/tutors. The key issue for the VET sector is establishment of national minimum standards for online delivery to ensure no group of online VET students is disadvantaged. Appendices describe the study procedures, student survey, coordinator's questionnaire, students' interview questions, case study proforma, and individual case studies. (Contains 72

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Learner expectations and experiences

An examination of student views of support in online learning

Online LEARNING

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NCVER

Acknowledgements

The findings of this study are the result of collaboration between online students and teachers and co-ordinators of private and public providers throughout New South Wales, Victoria, Queensland, South Australia and the Australian Capital Territory. We would like to express our gratitude for their time and input, without which the study would not have been successful.

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ISBN 1 74096 050 5 print edition
TD/TNC 69.19

ISBN 1 74096 051 3 web edition
TD/TNC 69.61

Published by NCVER

ABN 87 007 967 311

252 Kensington Road, Leabrook, SA 5068
PO Box 115, Kensington Park, SA 5068, Australia
www.ncver.edu.au

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Executive summary

Background

The integration of information technology into vocational education and training (VET) has dramatically enhanced flexible delivery within the sector by expanding and modernising their capabilities to include online learning. In doing so, learning services have been extended to meet the needs of a more diverse client group. With rapid growth in online innovations, research interests have also focussed on how the use of technology can enhance the delivery of courses.

The literature has shown that much of the emphasis has been on the technological component of online delivery as providers have grappled with the transfer of learning from traditional classroom mode to online. An examination of national databases, however, indicates a dearth of research undertaken in the area of support for students undertaking online learning. One area in particular that remains deficient relates to the nature of support that students expect. The full nature and range of services experienced by online students in the VET sector is also unknown. In view of this deficiency in research relating to services for online students, the National Research and Evaluation Committee (NREC) commissioned a study to explore the expectations and experiences of online students in the VET sector. This report contains the literature review, background to the study, methodology, findings and conclusions. A set of guidelines for providers is also included.

The benefits of online delivery have been perceived as including cost-effectiveness, just-in-time learning, student-controlled options, self-paced learning, interactivity, accessibility, uniformity of content, customised content, and regular and rapid update of content.

Through the use of technology, students have greater flexibility and control over the time, pace, place and resources for learning. Technology has enabled the development of interactive environments where the student is actively involved in the learning process. Students are now able to use technology to communicate effectively with many others for the purposes of learning. Web-based technology also provides access to databases and homepages to which resources for learning could be referred. Online customisation enables the identification of the strengths or weaknesses of students and addresses their needs accordingly. Furthermore, changes to content are completed in real time.

The body of literature on the use of online technology for learning continues to grow in response to rapid advances in technology. Consequently, new systems and practices continue to advance at a rapid pace, presenting some difficulties with evaluations to measure its effectiveness.

The need for support for students has been highlighted by a number of authors including Brookfield (1984), Candy (1991), Mitchell and Bluer (1997), Warner, Christie and Choy (1998), van Stavaren, Beverley and Bloch (1999) and McNickle (1999). The requirement for intervention strategies and support for students has also been emphasised in studies investigating non-completions in VET programs (for example, Baron, Thiele & Hintz 1995; James 1998; McNickle 1999; Misko 1999). Research on the quality of online learning has been undertaken; however, much of this is inconclusive.

Aim

The aims of the study were to:

- explore the theoretical frameworks/models underpinning student support and intervention strategies in online learning
- examine the current assumptions and practices in the delivery of online VET programs
- investigate student expectations and experiences of current practices at various stages in their programs of study
- develop guidelines for online support for both practitioners and students

Methodology

The methods used to undertake the research included:

- a review of websites and other databases of online providers
- a survey of online students in a range of registered training organisations (RTOs)
- brief interviews with key staff responsible for online delivery within RTOs
- a review of the literature

Student survey responses

Two hundred and one responses were received from students who represented 23 private and public institutions across New South Wales, Queensland, Victoria, Australian Capital Territory and South Australia.

Summary of survey results—students

Analysis of the survey responses show that the top ten services that online students expect are:

- detailed information about what is required to complete the module/course
- detailed information about the courses
- security of personal details on the institute's database
- clear statements of what they are expected to learn
- helpful feedback from teachers
- requirements for assessment
- communication with *teachers* using a variety of methods, for example, email, online chat, face to face
- timely feedback from teachers
- instructions on whom to approach for help
- information on how to enrol

Summary of interview findings—students

With a limited response to the interview questions, these findings should be considered as a sample of the group only.

The three key areas that students perceived as being essential were:

- regular contact with teachers/tutors

- quick responses from teachers/tutors
- regular support for learning

Services which had been established and which proved most beneficial:

- bulletin boards
- enrolment information with links to application forms
- course information including costs for each course
- the option to complete the assessment online

When asked which areas of online services were most in need of improvement, comments from students focussed mostly on facilitation by teachers and technical systems.

The interviewees identified several shortcomings in teachers and their practices. The most frequent among their comments related to the delay in response from teachers. They suggested that teachers should mark assignments quickly and provide feedback to students within a reasonable timeframe (two days was suggested by one student). Many added that teachers should inform their students if they plan to take holidays. One interviewee suggested that teachers should not be changed during the course time.

A common problem encountered by most students related to attempts to refer back (when working online) to content already completed when undertaking assessments. The following statement illustrates this problem:

> *When you are doing your assessments, it is handy to look back over the section you studied ... Not to get the answers, but to make sure you have included what you intended. I found I had to hit the back button more often than not and lost track of where I was going. There was a lot of switching between areas that I found time-wasting.*

Teacher/co-ordinator findings

Results indicate that the participating institutions are providing online students with adequate information on the course material and on administrative procedures. There is a deficiency in processes whereby students assess their existing skills and suitability for online courses. This is an area becoming more significant and one which is also being correlated with completion rates and success in flexible learning. Furthermore, a lack of provision for students to pay fees and enrol online was identified.

Providers have taken into account the need for effective and reliable communication and have provided opportunities for communication between teachers and students. Research has also shown that, by creating a learning community, students are more inclined to feel part of the institution and complete their course.

Again there is a lack of opportunity for students to complete all administrative procedures online. There is also a lack of guidance on how to prepare and write assignments. Little information is available to online students relating to net etiquette, code of conduct, frequently asked questions (FAQs), technical assistance and tips on referencing electronic material. There is little assistance provided on how to use search engines, how to access databases and on strategies for checking the accuracy/quality of information on the internet.

Comments from teachers/co-ordinators

At the completion of the survey, teachers/co-ordinators were asked if there were any services that they believed should be provided which had not been covered by other questions in the survey.

Their responses included areas such as self-assessments, assessment of key competencies, administrative matters, preparation for online learning.

Teacher/co-ordinator interviews—findings

In summary, teachers/co-ordinators consider the most important student support services to be: a helpdesk with IT support, access to communication with tutorial support, an induction program and access to learning resources.

The five services that teachers/co-ordinators see students accessing most frequently are:

- *Support:* diverse off-line flexible learning structures to *support* the online program with facilitators being available 12.5 hours per day (0900–2100)
- *Communication:* phone/email contact needs to be available as part of the support mechanism and tutors should be in frequent contact with most students
- *Resources:* to include external access to simulators and specialist resources, links to State networks using WebCT, lending services for learning resources
- *Helpdesk*: for general assistance
- *Induction processes*: to include skilling students in written and IT literacy prior to starting and a self-assessment on learner readiness; for example, to enable students to operate software such as Windows and other platforms

Case studies—findings

The findings of the eight case studies, included the following:

- The online courses were either at certificate III or IV AQF level.
- There are specific teachers/tutors responsible for all student requirements in most courses studied. However, a number had IT support and in one case, a specific administration person responsible for online and distance students.
- Courses are very industry/practically oriented, with many students working in the specific industry discipline.
- Generally there are no prerequisites except in circumstance where students are expected to have computing skills and another where students are obliged to have certificate II in that discipline.
- The majority of providers require students to have access to at least a 486 PC with internet access—Internet Explorer or Netscape and Windows.
- In some circumstances the provider is linked to a central homepage which gives students access to a range of student services; however, if this is not the case, students are less able to access a variety of student services.
- Not all providers have an induction/orientation session available to students. The style of any such sessions varies. Sessions are mostly online with some face-to-face delivery.
- In one organisation students are assigned a mentor.
- Students are required to attend weekly online tutorials and perform specific assessment tasks.
- There is a range of communication modes available to students and teachers/facilitators for interaction and assistance.
- Most providers have an email response time (usually 24 hrs) for teachers and one provider has a response time for students as well.
- Communication between teachers/facilitators and students is seen as the most critical factor in the success of a course; completion is partly attributable to students 'belonging' to the online community brought about through good communication.

It should be noted that online delivery is in its infancy, with many courses either in the pilot identification stage or early stages of development. As a result identification of the *best/innovative practices* could possibly be premature. However, this study observed a number of noteworthy practices:

- Resources are built into learning materials and extra resources are available through links.
- Students studying an agricultural course, are required to have a workplace mentor or coach. Students are also encouraged to use industry-related contacts as resources for their study, for example, bank managers, chemical companies etc.
- Students are selected by TAFE NSW selection criteria and the course (IT) selection criteria outlined in the course information.
- One IT support course requires that students attend a compulsory workshop for observation of practical skills.
- In a community services and health course, students with similar skills are put in the one class and are located on the one site to encourage interaction.
- The platform used in one college enables the tutor to calculate how often the students log on, what they do and what their participation was.

Teachers/co-ordinators considered the three limitations of their current online services to be:

- information technology
- support/teaching
- resources

Conclusions

The key issues for RTOs to consider include:

- specific professional development for teachers/tutors who are involved in online delivery
- allocation of dedicated staff to support online students to enable them to provide rapid response to enquiries
- establishment of guidelines and directions for online students and teachers/tutors
- establishment of the roles and responsibilities of students as well as teachers/tutors

The key issue for the VET sector is to set national minimum standards for online delivery to ensure that no group of online VET students is disadvantaged.

Introduction

The integration of information technology into vocational education and training has dramatically enhanced flexible delivery within the sector by expanding and modernising the capabilities to include online delivery. In doing so, learning services have been extended to meet the needs of a more diverse client group. With rapid growth in online innovations, research into how the use of technology can enhance the delivery of courses has increased.

However, there is one area where little research has been undertaken—the nature of support that students expect during online learning. The nature and range of services experienced by online students in the VET sector vary from provider to provider. Each provider attempts to meet the needs of its students within the constraints of variables, such as infrastructure, staff, and learning resources. Furthermore, there are no minimum standards stipulated for the quality of online student services.

The current research was a response to the dearth of feedback on the expectations and experiences of online students in the VET sector. This report contains a literature review, methodology, findings and conclusions as well as a preliminary set of guidelines for providers of online learning.

The appendices, which include the methodology used in the study and the case studies, can be found in the web edition on NCVER's website www.ncver.edu

Project description

Project aims

The aims of this study were to:

- explore the theoretical frameworks/models underpinning student support and intervention strategies in online learning
- examine the current assumptions and practices in the delivery of online VET programs
- investigate student expectations and experiences of current practices at various stages in their programs of study
- develop guidelines for online support for practitioners

Research questions

The above aims were addressed through the following research questions:

- What are the key frameworks and models for student support in an online environment?
- Are online training providers meeting the support needs of their students?
- What support do online students expect from providers?
- What are the limitations in current support systems?
- What are the characteristics of best practice examples of student support in online delivery of VET?
- How can student support for online learning be enhanced in a cost-effective manner?

Scope of the project

The initial literature search for this study indicated the diversity of interpretation by RTOs of online learning. For example, many marketed their courses as being online, but had course materials posted on the internet. Their students accessed the web pages to read or download the content, but completed the learning and assessment tasks in a traditional distance education approach. In view of the diversity in interpretations of online learning, the project team developed its own definition to establish the scope of the study, being:

> *Students who were enrolled in online courses where they were required to interact with materials using a networked computer system and were required to complete summative or formative assessment tasks. Teachers and co-ordinators of these online students were also invited to participate.*

Methodology

This study used both quantitative and qualitative methods. Separate surveys with students and online course co-ordinators and teachers provided quantitative data. Interviews with students, course co-ordinators and teachers, and case studies provided qualitative data. The purpose of the interviews was to expand on critical services that online students expect, the most beneficial services, best examples of current services and those most in need for improvement.

Most of the data were collected through the electronic medium, namely emails. This entailed sending the surveys to the teachers/co-ordinators of the 28 participating institutions for distribution. This method of distribution was used to maintain the privacy of participating students. As a result, it was not possible to record accurately the number of surveys distributed. More detailed account of the methodology is included at appendix A.

The questionnaire, survey and interview instruments are contained in appendices B to F. Appendix G contains the individual case studies.

Literature review

Background

Online delivery is 'looking at computer technology which enhances, extends and replaces traditional teaching and training practices' (Brennan 2000). It is therefore critical that this mode of delivery provides support to online students. Essentially, the purpose of online learning is to offer students a more flexible, individual and independent mode of studying. In order to be successful, however, the providers must anticipate the difficulties students may encounter, and establish mechanisms to address these. This can be achieved through technology support, having sufficient detail and information online, or even providing social interaction via facilities such as computer-mediated conferencing (CMC) or email.

Rapid advancements in current technology have meant that flexible delivery has progressed equally rapidly, offering the students a kaleidoscope of learning methods to explore. Through the development of online social networks and the ability to communicate with others on a regular basis, technology has helped to overcome the feelings of isolation experienced by many students. However, despite these technological advances, online providers must not leave behind those who are less technically capable. Computer illiteracy still exists, especially within the older student population, and needs to be addressed.

The overall transition between online and classroom education can be intimidating. The success of online delivery will be determined largely by the experiences of the students. Unless there is appropriate and adequate student support, success in learning using this technology will be difficult to achieve. It is therefore essential that providers become aware of the limitations in current services and address the student needs in a satisfactory manner to make this technology attractive to a wider community of students. One of the outcomes of this project will be the identification of support needs of students which will assist practitioners in addressing these issues.

As the VET community is becoming more responsible for determining training for their own professional development needs, for retraining, 'just in time' training and general training for employment purposes, it is equally important for students to have access to a range of support services in the transition period. With the changes in the requirements of training has also come the need for:

- flexibility and an 'anytime, anyplace' philosophy
- changes to the role and responsibilities of the student
- the changing skill requirements of the student to self-directed learning

It must be noted that even though this mode enhances access to learning, not all students are suited to it, and even those who are suited still require some form of support in the initial stages of the transition (Salmon 2000; Harper et al. 2000; Smith 2000).

Another change in the training area is the commercialisation of education and the 'user pays' philosophy. Students are having to pay for their education and training and are now more discerning clients. To undertake and fully realise their learning experiences, they want more information, quality learning and efficient services from all areas they access. This in itself has broadened the flexibilities of the learning experience to cater for the needs and expectations of the student, with more students regarding learning as essential for survival rather than optional (Cochrane 2000).

Harper et al. see online technologies attracting teachers and trainers to this delivery option because of the 'anytime, anyplace' philosophy and the diverse access opportunities this creates. However, this mode has necessitated a reconceptualisation of teaching and learning, with new skills required of both the teacher and the student to enable them to adapt to the pedagogical needs of the environment.

While there is a recognition of the changes taking place in the teaching and learning model and the skill base requirements of students adopting online delivery, as well as the concomitant issues students face as they make this move, there has been limited research from the student perspective of what they expect and experience in the form of support for online learning. This report captures examples of some of those expectations and experiences, and analyses the juxtaposition of the student experiences and expectations with those of the teacher/co-ordinator perceptions of their provision. The section which follows outlines the support documented in the literature in the categories of: pre-enrolment, teaching and learning and technology support.

In the context of adults having the ability to be self-directed students Knowles (1980, cited in Long & Associates 1992) believes that it is not wise to 'just throw them into the strange waters of self-direction and hope they swim'. The same could be said for online students and the need for them to be supported in the initial stages of transition. This opinion is further supported by Dewey (1938) with, 'if we "replace external control with self control," we must, in every self-directed learning situation, systematically prepare the student for this challenge' (p.321).

Not only are there assumptions being made about the self-directed learning skills of the student, but there are many assumptions being made about students' possession of information literacy, functional literacy and IT literacy skills required to use the medium.

The novice online student not only has to manage the technological nuances, but also the often unreliable behaviour of the technology. Other issues faced by the student include:

- a new mode of learning in a different learning environment, often without access to readily available support
- information overload
- passive interaction
- no socialising
- the cost and time involved in printing downloads and technical malfunctions

These challenges, when not adequately supported, greatly influence retention rates and create or reaffirm a negative learning experience.

The recent rise in the flexible delivery of VET has been accompanied by a number of national and State-based research and development projects, the focus of which has often been on the technological innovations involved in transferring learning from mainstream to online. In addition, Learnscope, ANTA Toolbox, the Learning Systems and Resources Standing Committee projects in South Australia and EdNA (Education Network Australia) VET projects have focussed on the professional development of those formulating and delivering training online.

Another example is provided by the Australian National Training Authority ([ANTA] 1998) publication, *Australia's national strategy for vocational education and training, 1998–2003: A bridge to the future*. This strategy has been designed to ensure that the skills of the Australian workforce are sufficiently competitive to provide individuals with the skills necessary to optimise their potential. A further initiative of ANTA has been the creation of the Framework for National Collaboration in Vocational Education and Training (ANTA 2000). This framework has been the major source of funding and innovation in the VET sector. Five goals designed to aid the collaborative approach as the VET sector makes the transition to the information economy have been identified.

Other policy influences at State and Territory level include:

- *TAFE Online 2001* (Victoria) provides State policy (cited in Harper et al. 2000).
- *TAFE SA* provides a comprehensive set of policies and procedures (cited in Harper et al. 2000).
- NSW, QLD, WA, and Tasmania have planning and vision documents that address the enterprise. Some of the policies are available on the TAFE websites (Harper et al. 2000).

An examination of VOCED, AEI (Australian Education Index) and other national databases, however, indicates limited research has been undertaken from the perspective of the student in relation to their experiences and expectations of support in online learning. There is also a lack of research on issues of concern to students in an online environment. Much of what has been written about flexible delivery and online learning is based on assumptions about student independence, assumptions, which are largely untested.

A study undertaken by Harper et al. (2000) outlined the national, State and Territory policies for the role of technology in the delivery of VET. These policies are instrumental in the development and implementation of online technologies within the VET sector. Examples of these policies include: the Commonwealth Government's strategic framework for the information economy released in 1999 which outlines government policies for lifelong learning and the use of technologies to enhance a more flexible approach to learning and providing people with the technological appropriate to workplace and community. Technology is also seen as a support strategy for flexible learning.

Definitions

The term 'online' is defined as: 'The use of cyber systems such as the intranet and internet for communication for the purpose of teaching and learning' (Warner, Christie & Choy 1998).

Salmon (2000) sees the term online as covering a range of technologies and cites the definition of Santora (1995 cited in Salmon 2000) as:

- informatics
- computer-assisted instruction
- computer-mediated conferencing

By contrast, Brennan (2000) defines it as requiring situations where:

- Computers support teaching and learning.
- There is a mixture of computer support and online delivery.
- Computer technology alone delivers education and training.

(Adopted from the University of Illinois 1999 and cited in Brennan 2000)

In essence, Brennan reiterates this as: 'looking at computer technology which enhances, extends and replaces traditional teaching and training practices' (Brennan 2000, p.9).

Traditional student services

It has been identified by researchers (Carroll & McNickle 2000; Hampton 1997; James 1999) that online students need to have access to the same services as traditional students. These are categorised below and include:

- *Pre-enrolment support services*: including career advice/counselling, course advice, course information, information on enrolment procedures and payment of fees. In these areas the information is limited on student feedback on the quality of course information and the like; however, authors (Hampton 1997; James 1999) have indicated the necessity for assistance with course selection and up-to-date course information linking to career pathways. Carroll and McNickle (2000) found that career counselling and advice were some of the more difficult areas to service effectively.

- *Teaching/learning support services*: including induction and orientation, communication strategies, access to study and research skills (time management, learning-to-learn skills/independent learning skills) information literacy and general learning support. Researchers unanimously agree on the necessity of induction/orientation to flexible learning (online learning) in a variety of forms to accommodate distance and isolated students; however, there are disparities in the contents of these programs (Webb & Gibson 2000; Snewin 1999).
- *Technical support services*: services relating to the IT support, providing students with a range of options for accessing assistance, including phone, fax, email, FAQs and helpdesk.

  There is extensive literature in the area, and issues concerning technology use are seen as major influences in effective online teaching and learning. The following issues are emphasised in the literature:

  - access to technology: this includes set-up problems, inadequate infrastructure, unreliability of the system and inadequate software and hardware (Collis 1996; Corben 1997; Berge 1998; ANTA 1997b)
  - prerequisite level of technical knowledge required by teacher and student (ANTA 1996; ANTA 1997; Corben 1997; Williams 1997)
  - ease of understanding of web interface and technology and accessibility (Evans & Deschepper 1998)
  - technology: clear, transparent and easily understood, user-friendly (Snewin 1999)
  - designed to the lowest common denominator in terms of available technology (Corderoy & Lefoe 1997)
  - technology: reliable, well-supported and 'comfortable' (Collis 1996)

Support services offered to online students

ANTA defines student services or student support as:

> *The services provided to enable students, however they are undertaking their training, to access learning support and other assistance to maximise their chances of successful completion.* (ANTA 1996, p.53)

There is a considerable information available on student support requirements for flexible delivery (McNickle 1999; van Stavaren, Beverley & Bloch 1999; Misko 1999). This research strongly indicates the necessity for the provision of a range of support services to enhance the chances of completion for students undertaking flexible learning. A recent study, *Online student services research report* completed by Carroll and McNickle (2000) highlighted the necessity for all of the support services available to traditional face-to-face and distance education students to be made available to online students. The summary of literature below identifies the services defined as 'traditional' for students and thus, which are also seen as essential for online students.

Pre-enrolment support services

- The literature on career/course advice/counselling is limited, with authors (Hampton 1997; Prisk 1998; James 1999) indicating the requirement for up-to-date information to be available on courses and career pathways.
- There are limited actual career counselling and career advice opportunities available (Carroll & McNickle 2000). This study indicated that these areas are some of the more difficult areas to service effectively.
- McLendon and Cronk (1999) pose the question of the provision of enrolment documentation in hardcopy and the fact that this can slow the process of enrolment.
- Graduating students are able to access a varied range of assistance and information on career destinations, job-seeking skills, agency links and results. Some institutions offer extensive graduate destination information, while others provide the opportunity for employers to give employment details, assistance and even, in some cases, interviews. Employment information and assistance is also available online.

- There are vast amounts of information on courses available online. This information ranges in depth of information and in some instances, indicates career paths that students can choose as a result of a particular course of study.
- Some organisations have the provision of enrolling online and the facility for payment. This however, is mostly restricted to the university sector.
- Opportunities for recognition of current competencies (RRC) have also been addressed at some universities and this is done automatically at the time the student enrols. Again this appears to be confined mostly to the universities (Carroll & McNickle 2000).
- A number of institutions allow students to enrol online. At OTEN (Open Training and Distance Education Network, TAFE NSW), however, students fill in an application form for selection, which provides two purposes in that it gains student information and assesses their online competency. In other institutions students enrol on the usual hardcopy throughout the year (Golfers & James, 1999).
- Charles Sturt University was trialling online courses and sent enrolling students pamphlets, brochures and a disk as part of their marketing strategy.
- In relation to payment of fees, credit card facilities are available at a number of institutions and BPAY is used by a limited number (Carroll & McNickle 2000).

Online delivery has provided a platform for diversification and innovation in the delivery of learning in the workplace and in the general education sectors. Much of this innovation and flexibility relates directly to the changing needs of the different student client groups within the sector. This innovation and flexibility provides an ideal context for building social capital and developing community learning networks (Bruce 1998). Despite this, there has been very limited feedback gathered from the student's perspective and the support mechanisms required to successfully undertake the transition from traditional to online learning.

The need for support for students has further been highlighted by studies conducted by Brookfield (1984), Candy (1991), Mitchell and Bluer (1997), Warner, Christie and Choy (1998), van Stavaren, Beverley and Bloch (1999) and McNickle (1999a).

George (1995) also reiterates the importance of support with:

> *Access to a comprehensive, systematic and coordinated network of support is ... essential for students to learn independently ... Without this level of support, the assumption of particular manifestations of independence among students has the potential to become yet another way of perpetuating social injustices and setting some students up to fail.* (George 1995)

A further study by van Stavaren, Beverley and Bloch (1999), found that initially, many students were unaware of the support services available. For instance, 60% of students in their study didn't know of the counselling and library support available to them.
Van Stavaren, Beverly and Bloch (1999) recommended that support services be provided at all stages of delivery and that these services be actively promoted. In addition, this study found that the type and timing of support needs further examination.

Barker (2000) in her study of the student perspective on online learning of adult community education (ACE) students found that the focus on student skills, what the student needs to undertake the course and the role of the teacher in supporting the skill development were central to the success of the student making the transition to online learning as an independent student. She elaborates on this by advocating that the following are prerequisites for this transition:

- basic and complex technical skills
- negotiating online relationships
- negotiating the language of the education system

Research undertaken by Brennan (2000), McKavanagh et al. (1999) and Carroll and McNickle (2000) has found that universities are offering some complete courses and individual units online. However, VET RTOs are offering only a limited selection of complete courses online, with most offering a designated selection of modules, mainly relating to information technology and computing. Private providers are offering considerably less information and

course material online, with providers like Qantas College Online and Motorola offering specific course materials for their staff training.

Teaching/learning support services

- In the context of induction and orientation to online learning, there is extensive information and agreement on the necessity of induction/orientation in its varying forms, with the majority of organisations providing some form of induction. James (1999) found that even though students were ready to take advantage of online learning, they needed the extra support provided by attending an induction/orientation program.
- The content of induction/orientation programs varies, with the following requirements being seen as essential:
  - functional computing and internet skills (Brown 1997; Brown 1998; Webb & Gibson 2000)
  - independent learning skills (Webb 1998)
  - research on web skills (Murphy 1998)
  - assistance with orientation available online (Williams, Lord et al. 1997; Brown 1998; Byrne & Pittwood 1998)
  - assistance available by phone or face-to-face (establishing the right atmosphere and trust is essential) (Webb & Gibson 2000; Snewin 1999)
- Other researchers advocate that a variety of methods should be available to accommodate distance and isolated students, ensuring they are not disadvantaged (Twyford 1999; Snewin 1999; Wheeler 1999).
- Salmon believes that students need to use the new online medium to undergo induction and offers her five-stage model of computer-mediated conferencing to structure the support requirements (Salmon 1998).
- Brown's (1998) 'on-ramp' concept which introduces students to using the internet recommends the use of a range of mediums to achieve this, including CD-ROMs, telephone and printed materials.
- The use of CD-ROMs, videos and discs to provide information and assistance is recommended (Williams, Lord et al. 1997; Twyford 1999).
- In relation to ongoing communication with students, it has been found that follow-up contact with students after orientation using telephone helps to improve retention rates (Evans & Deschepper 1998; Twyford 1999).
- Gooley (1998) acknowledges the benefits of online learning, but hastens to highlight the main issue as access to technology.
- The concept of chat and email should be built early in the course (Brown 1998; Gofers & James 1999).
- Salmon advocates the development of a buddy system with more experienced students (Salmon 1998).
- The importance of personal contact with tutors and teachers is extensively highlighted (Williams, Lord et al. 1997; Gofers & James 1999; Snewin 1999).
- Research (Carroll & McNickle 2000) has found that the administrative services—student administration—is one of the more challenging areas to provide online, particularly in the areas of changing online courses, financial status, enrolling, payment and the provision of evidence/documentation for recognition of prior learning. Pittman (2000) reaffirms the importance of these facilities: 'What is needed is a comprehensive platform for online education, which includes not only presentation and education but also all the administrative functions required for student progress through the institution' (Pittman 2000, p.12).
- The importance of access to personal contact and communication links—academic research—are paramount in supporting students (Williams, Lord et al. 1997; Snewin, 1999, Carroll & McNickle 2000)
- Wheeler (1999) proposes the model of the 'learning case manager' as a means of enabling students to move into the online learning role.
- Doctor (1998) raises a number of issues pertinent to counselling online, such as the legal and confidentiality issues, as well as authenticity of the client. At this stage the solutions suggest a

comprehensive website of study tips, stress and conflict management and links to a range of assistance.

- TAFE SA completed a Learnscope project on counselling in 2000, 'Online counselling skills' (cited in Carroll & McNickle 2000) which demonstrated that there is limited literature on supporting students online. Johnstone (1998) and Smith and Smith (1999) note that students at a number of educational institutions in Australia and New Zealand do have access to counselling mainly via email. Carroll and McNickle (2000) argue that institutions need the capacity and resources to provide appropriate and supportive information.
- Sanders and Rosenfield (1998) outline the competencies needed for computer-mediated therapy sessions. The counsellor using the internet needs to:
  - establish contact with the client
  - establish a therapeutic relationship
  - communicate with minimum loss or distortion
  - demonstrate understanding and be able to frame empathetic responses
- In relation to academic resources, libraries have been working in the area of supporting distance education students for some time, especially the distance education providers. This experience appears to have made the transition to online support easier. The library, being very specialised and technically based, has an enormous amount of literature in the area of online support for students.

One of the positive outcomes of online learning is the opportunity for increasing the communication between students and support staff. This has been enhanced and made available through the implementation of email and other CMC facilities. CMC seems to be less intrusive than face-to-face or even telephone tutorials. Some students are more comfortable not being identifiable when participating in this environment, whereas others are not able to contribute. This creates a challenge for the e-moderator. Asynchronous discussion allows students the time to reflect on their responses before they respond and time to reflect on topics between discussion times. This medium also provides the forum for 'development of discussion and innovative ideas which creates intrigue not often found in the classroom ... It is also a good medium for giving praise and constructive critiques' (Salmon 2000, p.17).

Some of the benefits of CMC include:

- The environment creates a freedom for students to express views and share experiences.
- Discrimination in any form is less apparent.
- The control of the conference is shared and can shift from teacher to student and student to student.
- Costs of purchasing equipment can be offset by not having to pay for travel and attendance.
- The medium provides an excellent environment for exploring different teaching strategies.

A disadvantage seen by Le Cornu (2000), is that students need to be trained in how to use the online learning facilities effectively. Many students don't access electronic messages or online discussion, even though this medium is seen to be a beneficial environment for the quieter, less confident student, providing an opportunity for reflective and more considered responses (Cashion 2000). Salmon (1998) asserts that it is the responsibility of the provider to ensure that the student is sufficiently comfortable with technology so that it becomes an 'enabling device rather than a barrier'. She even questions whether '... the achievement of pre-learning and "just in time" online learning support to create student "comfort zones" is the key to success', particularly in an environment where such support is rare.

A senior lecturer in higher education at Queensland University of Technology, Dr Yoni Ryan, admits that 'students are not particularly good at learning independently and need teachers to ensure they work effectively online'. This comment is consistent with that of Sandra Wills, director of the Centre for Educational Development and Interactive Resources at the University of Wollongong, who adds that 'the distance education drop-out rate is much higher than among on-campus students'.

Gee (2000) reports Ryan's comments:

> *The best use of online teaching is a "hybrid approach using different media", but admits most staff merely upload text of lectures. It's hard to blame them. The time-consuming demands of juggling online and traditional teaching has [sic] created more work for educators who are hesitant to ditch the pedagogy of traditional strategies for unproven methods.*
>
> *What doesn't work in e-education, she says, are non-accredited virtual universities that offer 100 per cent online learning but have little infrastructure, staff or research agendas.*
>
> (Ryan cited in Gee 2000, pp.20–1)

Boote (1998) highlights the disparities between the available literature and what is actually being practised in the learning environment in the areas of student support and the development of lifelong learning skills. This is consistent with the views of authors such as Candy (1991) and Crombie (1995 cited in Boote 1998) who question whether students are adequately prepared and supported for the transition to VET, especially in relation to the development of their metacognitive skills and the implications of this. They believe further investigation is needed in these areas. There is a presumed level of self-directedness and assumptions made about the metacognitive skills of students, in particular, about adults with disabilities undertaking VET courses. Such assumptions are rarely tested prior to commencement of delivery, often leading to difficulties faced by students.

Peoples (1999) cites the seven best practice principles for online learning as:

1. Developing a network of support
2. Ensuring a variety of learning styles and preferences
3. Designing interactive learning materials
4. Ensuring educationally driven learning
5. Providing organisational and financial support
6. Ensuring adequate security
7. Using a planning model (Peoples 1999, pp.10–12)

The Institute for Higher Education Policy (2000), sponsored by the National Education Association and Blackboard (Washington), prepared a report, *The quality online benchmarks for success in internet-based distance education*. These benchmarks fell into the following seven categories:

- institutional support
- course development
- teaching/learning process
- course structure
- student support (This includes all of the services found in the usual college campus such as, admissions, and student training and assistance that is easily accessible while using the internet, for the duration of their course.)
- faculty support
- evaluation and assessment (Institute for Higher Education Policy 2000, pp.9, 12)

Harper et al. (2000) recommended the following strategies to help prepare students for online learning:

- Students need to be prepared and supported through the initial stages.
- Not all students make effective use of the opportunities offered.
- Many institutions make assumptions about the resources and access available to students.
- Students need technical aid when starting to use technology.
- Learning materials need to be of a simple, consistent design.
- All learning support to be accessible online.
- Materials need to be self-directed and independent.

- Some organisations with a range of induction/orientation sessions to help students get started with the technology, become acquainted with online environment and what is expected of them.
- Students need access to counselling services and the provision of a mentoring program.
- There is a need for suitably qualified staff to assist students with technology and to create resources. (Harper et al. 2000, pp.18–19)

In attending to these recommendations, Harper et al. alluded to the work done by Cornell and Martin (1997 cited in Harper et al. 2000), who suggested that challenges for facilitators and students include:

- maintaining motivation
- acceptance by teacher and student
- prior knowledge as a participant
- attitude towards technology
- content level
- degree of interactivity
- difficulty in using the system
- accessibility to the system
- ability of teacher and student
- communication skills

Brennan (2000), in her research on the effectiveness of online delivery of education and training in Australia, examines the contradictions and the ideological opinions, ideas and research associated with this topic. Some tensions highlighted by her literature include:

- Student isolation vs community of students.
- The medium promotes a transformational view of learning vs a transmission view.
- The medium encourages choice of information and student autonomy vs the medium strictly controlling information and learning.
- Online delivery facilitates communication between students and facilitators vs isolation due to socioeconomic circumstances, distance and ethnicity.
- Online delivery facilitates the growth of student independence vs student dependence.
- Online delivery focusses on quality of the learning vs online delivery achieves quantifiable and sometimes narrow outcomes.
- Online teaching requires completely new ways of teaching vs online delivery achieves small modifications to previous teaching and training methods. (Brennan 2000, p.42)

Students in Harper et al.'s (2000) study also indicated that support needs to become more self-regulated and should include techniques on maintaining motivation. The vast majority of issues faced by students relate to social interaction. They recommend that good online teaching is about building a community related to being responsive and caring for students.

Technology support is only a portion of the support requirements of the online student. A recent study by Carroll and McNickle (2000) shows that the education sector is grappling with the provision of a myriad of support services designed to fulfil the varying needs of their students. Providers tend to approach the provision of services in an individualistic manner, often reflecting the needs of their specific students. However, providers generally realise that a holistic approach is essential to providing students with the assistance necessary to make the transition to online learning.

Boote (1998) admits that one of the main aims of providers should be the development of skills required for self-directed learning and lifelong learning, both of which require a high level of metacognitive skills. She observed that students generally are not given the opportunity to develop their metacognitive skills prior to embarking on the challenge.

Self-direction in learning is defined by Brockett and Hiemstra (1991 cited in Boote 1998, p.61) as 'a combination of forces both within and outside the individual that stress the student accepting ever-increasing responsibility for decisions associated with the learning process'.

Boote (1998, p.61) elaborates on this by citing Guglielmino and Guglielmino (1991) who define the self-directed learning process as, 'comprising a cycle of identification of learning needs; development of learning goals; preparation of learning plan; location of resources; implementation; evaluation of result and process'. She sees learning as requiring the metacognitive skills of planning, deciding, monitoring, evaluating and terminating (Biggs & Moore 1993 cited in Boote 1998). These factors indicate that metacognitive skills are needed for self-directed learning; however, students need to know how to take responsibility for their own learning online, the average person taking approximately 70% of the responsibility for change, planning and implementation strategies. She recommends that:

- All students in VET need support in learning-to-learn, not just students with disabilities.
- The introduction of metacognitive skills should only be an interim issue until schools put this into practice.
- The student's level of self-directedness should match the level of opportunity built into the learning situation.
- Teachers need to develop their skills and understand their own level of self-directedness.

Online learning requires 'the use of cyber systems such as Intranet and Internet for communication for the purpose of teaching and learning' (Warner, Christie & Choy 1998) and includes correct use of technical, as well as pedagogical skills and knowledge to successfully undertake learning through this medium. Student or student support is critical for this technology, which is still unfamiliar to many. This is especially important at a time when most practitioners in the VET sector are experimenting with the new technology with few guidelines for its use for pedagogical purposes.

Cashion (2000) cited findings by Gazzard and Dalziel, showing that the perceptions of higher education students from the University of Sydney about online education included valuing interactivity in tutorials, whether it was face-to-face or computer-mediated. However, the study by Hara and King (in Cashion 2000) found students were very frustrated by some of the technological ambiguities, and in some cases dropped out because of this.

Technical support services

- In relation to IT support, helpdesk and FAQs, the literature raised a number of issues, with technology being the major issue. These consisted of:
  - access to the technology (ANTA 1996, 1997b; Collis 1996; Corben 1997; Williams, Lord et al. 1997)
  - inadequate hardware and software (Berge 1998)
  - set-up problems (Berge 1998)
  - prerequisite level of technical knowledge required by both teacher and student (ANTA 1996, 1997a; Corben 1997; Williams 1997)
  - inadequate infrastructure (ANTA 1997a; Berge 1998; Corben 1997)
  - inadequate technical support (Brown 1997; Berge 1998; ANTA 1997b)
  - unreliability of the system (Berge 1998)
  - cost (Bennett, Priest et al. 1999): the cost appears to be moving from the institution to the student
  - time investment (ANTA, 1997b): a combination of barriers and not totally a technical issue
- The web interface and technology should be easily understood and accessed (Evans & Deschepper 1998) and transparent, clear and user-friendly (Snewin 1999).
- The technology should be designed to suit the lowest common denominator in terms of available technology (Corderoy & Lefoe 1997) and should also be reliable, well-supported and make the students feel comfortable (Collis 1996).

(Adapted from Carroll & McNickle 2000, p.19)

Harper et al. (2000) noted that online learning provides students with contact with teachers and other students and also helps them overcome feelings of isolation felt when communication was predominantly via post. They also reported that online learning might challenge students to develop new skills and to re-evaluate themselves as students.

Interviewees in this study indicated that flexibility of the mode was the main benefit, with other benefits being:

- familiarisation and confidence in the use of technology
- contact with teachers and other students
- faster responses to queries
- more motivating mode

Some of the limitations they experienced included:

- regular problems with reliability and speed of technology
- cost of equipment and access
- sometimes difficulty in adaptation to the self-directed nature of online learning

One of the first studies undertaken on the use of electronic mail for supporting students was undertaken by Doctor (1998) who indicated the potential of this mode especially for counselling purposes; however, the main issue related to confidentiality.

Studies undertaken by Gabbard and Dillon, and Wallace in Harper et al. (2000) found that less confident students with low-level technological skills 'find constructivist learning environments threatening and confusing'.

The Manager of Corporate Learning and Development at Qantas and keynote speaker for Networking 2000 conference, Felicity Mildon, writes of the challenges Qantas has faced since the implementation of Qantas College Online in 1997, to provide access for 'just-in-time' learning for 30 000 Qantas staff. Mildon says that it is a significant change process 'and it takes up to 5 years to have it fully developed and embedded into a culture'. Mildon (2000) sees education and support for tutors as being essential in using the new technology, and notes that tutors themselves have had to go through a considerable change process. Qantas College spends a lot of time on induction, information, technical support and professional development for their 27 online tutors.

Qantas, according to Mildon (2000), sees the challenges for students consisting of:

- overcoming the fear of technology
- self-managed learning made more complex by technology
- overcoming isolation and participating in group learning

She also views the online support for students as including administrative systems and good, clear documentation to support students as well as technical support for students and tutors (Mildon 2000, p.6).

Student expectations and experiences

The necessity for intervention strategies and support for students has also been emphasised in studies of non-completions in VET programs, particularly by Baron, Thiele and Hintz (1995), James (1998), McNickle (1999b) and Misko (1999). Mitchell and Bluer (1997) shed some light on the complexity of the student support issue by stressing the need for the technology and the support provided by people to be interactive and integrated so that they become 'mutually reinforcing'.

Due to the embryonic stage of online learning, feedback of students' expectations and experiences of online learning has been quite limited. However tourism and hospitality students of the Cyber School at William Angliss College in Victoria are among those who have provided some comments. These students have undertaken courses delivered via the

TAFE Virtual Campus. Since many are located in regional Victoria, they were previously unable to undertake this training, but are now able to access online delivery programs. The facilitator, explains the success of the program:

> *The major factor in this success was the support given to students at a local level ... Where school mentoring was strong, students excelled. Program evaluation has also confirmed that approximately 90% of the students support online delivery.* (Scott 2000, p.9)

Students from Sydney's St George College of TAFE were asked what they expected when they went to a TAFE college. Their expectations included tutorial support (Scott 2000, p.18).

Brennan (2000, p.11) in her study, found the common issues students highlighted in the evaluations undertaken by Bennett, Priest and McPherson (1999), Bignum and Kenway (1998 cited in Brennan 2000), Laurillard (1993 cited in Brennan 2000) and McKavanagh et al. (1999) were:

- Students wanted contact with each other and their teachers.
- Learning about the technology, the information and the topic was dependent on the online activities being stimulating when designed.
- Limitations of the technology and its behaviour caused frustration.
- Online participation was time-consuming for teachers and students.
- It was time-consuming to download information and activities.
- These was a need for students to have well-developed information literacy skills.

Tutorials and residentials are seen as the only opportunity for students to meet peers and teachers, and to dispel the feeling of isolation associated with studying alone. The provision of CMC provides the opportunity for communication between students and tutors. Students in Cochrane's (2000) study commented that support was initially *highly bureaucratic*, but the service was good. The students realised their responsibilities and had clearly defined expectations of the services and responsibilities of the provider (Cochrane 2000). Support now takes a number of forms and students are able to access this information from different environments such as work, home and in transit.

Sturgill, Martin and Gay (1999) acknowledge that students find the flexibility of CMC positive. They also discovered, however, that students find some aspects frustrating, mainly due to a lack of feedback. The researchers stress the importance of ensuring that students realise that the problems they experience are often not attributable to their lack of knowledge but to the technology.

Feedback from students who participated in a study conducted by the Institute for Higher Education Policy (2000) included the following responses:

- Online courses require more discipline, but you can work at your own pace.
- I have only had two bad experiences with online classes, mainly because the course was not set up as completely or as well as other courses. They were more like correspondence courses and lacked feedback from the professors on assignments.
- I found that online advertisements and school services other than the course work is the real problem.

(Institute for Higher Education Policy 2000, pp.16, 19)

Initially, online delivery was the mode used in higher education for post-graduate courses, with this student group seen as not requiring the same support services as undergraduate or VET students. However, research has shown that students still require support as online students, especially in the initial stages. A study of student services for online students found that both universities and VET providers realise that a holistic approach to student services is necessary for effective learning to take place (Pittman 2000; Carroll & McNickle 2000).

Moreover, research (for example, by Warner, Christie & Choy 1998; Carroll & McNickle 2000) shows that, given the option, the majority of students would prefer the traditional form of learning with the presence and security of a teacher and other students, as well as the integration of a social network. Research undertaken by Smith and Smith (1999) found that

VET students prefer a teacher-led learning environment that is structured, enjoying the social interaction of their peers, and where reading is of low importance. Smith also noted that it was necessary for students to acquire metacognitive skills in order to undertake independent learning.

Not all students are suited to online learning. Work undertaken by Smith (2000) indicates that the learning preferences of apprentices are not suited to flexible learning. His study indicates that apprentices prefer a more structured and community-based learning environment with teacher support. Many did not like learning on their own.

The findings in Smith's (2000) study are consistent with those undertaken by Reading-Brown and Hadyn (1989 cited in Smith 2000) which showed that technical students had a preference for structured classes and had a passive approach to learning. The studies have indicated that the planning and structuring of learning in the workplace were deficient, unstructured and often unsupported.

These studies indicate that apprentices:

- prefer to learn about physical objects as opposed to reading
- prefer a hands-on experience
- are strongly influenced by the amount of structure in the content and the detail
- like greater interaction with their instructors and peers
- appreciate demonstration as a learning method
- feel threatened when asking for clarification, demonstration of tasks or asking questions

Although these findings apply specifically to apprentices, they also reflect the preferences of VET students undertaking studies utilising flexible delivery modes. It is therefore critical to address these concerns when designing and developing support mechanisms for online students.

Reushle's (1998, cited in Smith & Smith 1999) study of students using web-based materials and electronic communication, found that there were major differences in the comfort level of students using electronic forums to discuss subject material.

Kilpatrick's study (cited in Brennan 2000, p.31) indicates that students measure the conditions of success as dependent on lifestyle, preferred mode of learning, degree of comfort with the learning technologies, cost, workplace and educational demands and by comparisons with other forms of delivery.

Research material (Carroll & McNickle 2000; Warner, Christie & Choy 1998) on the VET student perspective of their preferences for learning indicates that many students are expecting, and would prefer to have the traditional classroom delivery mode when they enter the learning sphere. They not only want this 'comfortable' teacher-led environment, but enjoy the opportunity of being able to interact with others (Cope & Kalantzis 1998 cited in Brennan, 2000).

Another perspective is that students expect the opportunity to make a choice of which mode they prefer for their studies. While it cannot be denied that there is a percentage of the student population that is adequately skilled, confident and sufficiently self-directed to be enable them to experience the advantages of online delivery, there are also students who would prefer and are more suited to the traditional mode of delivery.

A study undertaken by Misko (2000) determined the effects of the different modes of delivery on pass rates and module completions. Her report presented students' opinions on the mode of delivery undertaken and concluded that flexible delivery students found the lack of interaction with teachers and other students to be the greatest disadvantage.

This point is also confirmed by research completed by Booker (2000) who discovered that student support needs to be available throughout their learning experience. Such support could include enrolment advice and the definition of online learning, their responsibilities, the availability of technology and teaching/learning assistance or direction.

Louise Gee (2000, pp.20–2) reports different perspectives of online learning students as indicated below:

- 'It can also protect a lifestyle', reports Alan Green (a University of Southern Queensland external student who is also an Australian Defence Force photographer) who says: 'I'm able to study subject by subject which means I can balance university, family and work commitments'.
- American online student Kim Inganamort tells readers of the opinion website, Epinions.com, that although she enjoys not having to sit in class listening to a 'boring voice drone on', online study requires 'more work than regular classes'.

Others complain of information overload, passive interaction, no socialising, the cost and time involved in downloading and technical malfunctions.

Salmon (1998) alludes to instances where students are initially enthusiastic about using CMC but then are quickly turned off when work pressures mount. Mason (cited by Salmon 1998) found that Duke University MBA students spent most of the first term 'getting up to speed with the technology'. This comment causes concern in relation to the provision of adequate support for many VET students who are isolated, unfamiliar with technology and expected to complete modules/units within a specified timeframe. Rohfeld (1995 in Salmon 1998, p.2) suggests that 'the amount of support novice users are likely to need cannot be overestimated' (Rohfeld 1995 cited in Salmon 1998, p.3).

Else and Hicks (1998 cited in Brennan 2000) examined the technological feasibility in the delivery of vocational training to remote northwest Australia. Their study looked at the technological issues and the technology match with the predispositions and life conditions of the student group. The following barriers to learning for students using technology to learn were identified:

- low levels of computer literacy
- low levels of general literacy
- costs of technology and its unreliability
- restricted customising of the curriculum to suit the needs of the client
- low levels of tutor and mentor support

Another comment in this same report concluded: 'The disparity between the technological capabilities of the institution and its students was referred to as "cutting edge, not bleeding edge" ...' (Else & Hicks 1998 cited in Brennan 2000).

Cochrane (2000) reflected on his 20-year distance learning experience and noted that the Caucus conferencing system was less than satisfactory due to a lack of sufficient training and the reluctance of most students to participate regularly. These observations imply that with the passage of time distance students are expected to possess a degree of computer literacy.

Other research (for example, by Mitchell & Bluer 1997; Palfreeman 1998) found that students were not convinced of the benefits of technology in learning and that it was impossible to replicate the same rapport from the classroom to the screen. Mitchell and Bluer (1997, p.3) advised that:

- *There is a need to continually monitor students' attitudes over a period of time.*
- *Some VET staff may have an idealised view of students wanting to gain more from their courses, while students may have more of an instrumentalist view.*
- *Different cohorts of students have different views of the technology.*
- *There may be a danger in assuming that adult students are computer literate or internet literate.*
- *Students' attitudes to courses involving new technologies may be influenced by the way their needs (advice, access to learning materials, communication and administrative assistance) are addressed.*
- *Student support services (such as tutors etc.) are often more significant than the learning technology.*

(Mitchell & Bluer 1997, p.3)

Brennan (2000) agrees that technological skills are often learnt at home when young, and many people over the age of 27 are within the group who are less technologically literate.

This group also includes those people from a non-English-speaking background, Indigenous people and those with literacy problems. Brennan strongly suggests that '... student outcomes will only improve if these changes are accepted and catered for in terms of curriculum content and pedagogy. Bigger language, literacy and numeracy demands make the vulnerable groups of students even more acutely vulnerable'. This further reaffirms findings studies undertaken of by Warner, Christie and Choy (1998), van Stavaren, Beverley and Bloch (1999) and McNickle (1999b).

O'Connor (2000) in his paper on e-learning and students with disabilities, sees students with varying disabilities benefitting from the technologies available. For example, those who are deaf, are hearing-impaired, blind or vision-impaired can benefit from the digital technology capacity of 'converting speech to print and print to voice, enlarge print and send broadband video signals via a telephone line'.

Findings

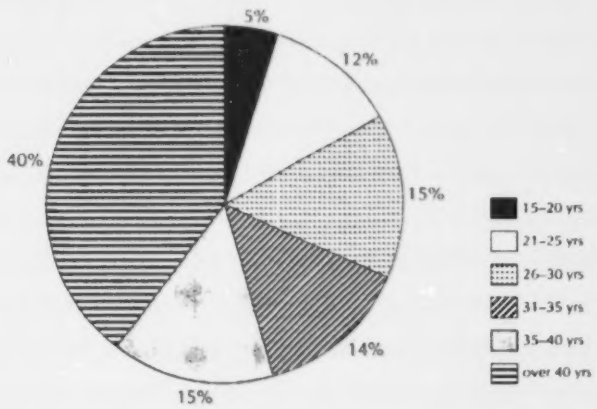
The findings from each data source (survey, interviews and case studies) are presented separately.

Survey of students

In total, 201 completed survey responses were received from students who represented 23 public and private institutes across Queensland, New South Wales, Australian Capital Territory, South Australia and Victoria.

The sample was divided into 68% female and 32% male responses. A majority of the respondents (40%) were aged over 40 years. Only 5% were aged below 20 years, 12% were between the age of 21 and 25 years. There were 15% of the sample aged between 26 and 30 years, 13% were aged 31 to 35 years and 15% were between 36 and 40 years. The distribution of respondents within each age group is illustrated in figure 1.

Figure 1: Distribution of sample by age group

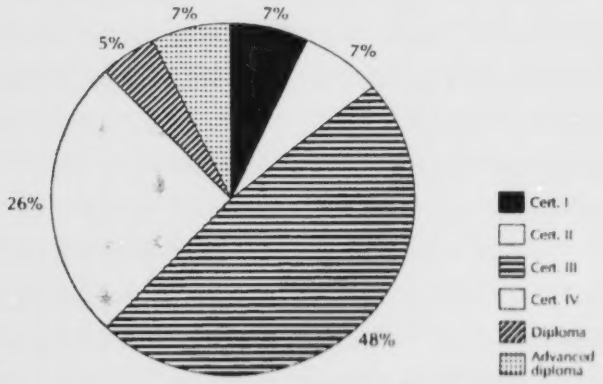


The majority of respondents (73%) did not belong to any of the stated target groups. Of the total sample, 2% were of Aboriginal or Torres Strait Islander (ATSI) origin; 6% were from a culturally and linguistically diverse background, while 19% were from rural or regionally isolated areas.

Online students who participated in this study were studying at a range of courses at certificate and diploma levels.

Most (48%) of the sample undertaking online courses were studying for a certificate III qualification. About 26% were pursuing a certificate IV course while 7% each were completing courses for a certificate I or II, and 5% were undertaking studies for a diploma and 7% advanced diploma qualifications.

Figure 2: Distribution of the sample studying at the various AQF levels



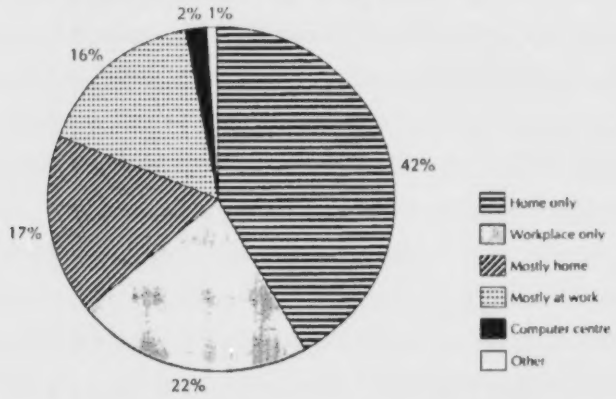
The range of courses, at varying AQF levels, which people in the sample were studying included:

- Unknown in
  - Business work processing
  - Negotiation skills
  - Introduction to aquaculture
  - Microsoft certified systems engineer
  - Anatomy & physiology 1 & 2
  - Personal growth & development
  - 3D animation (studio max)
  - Electronic mail
  - Flexible online learning/teaching
- Certificate I
  - Short Story Writing I
- Certificate II
  - Short Story Writing II
  - Electronics
  - Information Technology
  - Information Technology Network Administration
  - Library Studies
- Certificate III
  - Client Services
  - Government Administration
  - Government Client Services
  - Government Software Application
  - Government Information Technology
  - Information Technology (Software applications)
  - Information Technology (Business applications)
  - Workplace Assessor
  - Customer Services Relations
- Certificate IV
  - Business Administration
  - Information Technology
  - Office Administration
  - Small Business Management
  - Access & Workplace Training
- Diploma
  - Open & Distance Learning
  - Business
  - Engineering
  - Business Management
- Advanced Diploma
  - Accounting
- Graduate
  - E-business

Among those pursuing studies through the online mode, about 65% said they were completing their first module at the time of the survey. About 31% had already completed between 1–5 modules through the online mode and 4% had completed over 5 modules using this medium. While 12% of the sample had been doing online courses for less than six months (indicating they were beginners), a majority (83%) said they had been studying online courses for 6–12 months. Only 5% said they had been studying online courses for more than 12 months. The most experienced online student (one) indicated he had been studying for three-and-a-half years through the online mode.

The respondents were asked where most of their online learning took place. Their responses are shown in figure 3.

Figure 3: Places where most of the learning took place



The responses showed that 42% of students completed all of their online learning from home. About 22% said all of their online learning took place at work. About 17% completed their learning mostly at home and the rest at work, while 16% said they completed most of their online learning at work and the rest at home. Only 2% of the sample said they completed their online learning at the computer centre of their institute and 1% indicated their learning took place at a friend's house because they did not own a computer.

A majority of online students (64%) intend to complete the whole course via the online mode. About 17% of the sample plan to complete some modules/subjects online and the rest by other modes. Nineteen per cent (19%) of students were undecided about future online learning.

A large proportion of students (94%) were employed while studying online. Among them 13% were in part-time employment while 87% held full-time jobs.

The students were asked to state their reasons for undertaking online courses. The statements provided by the sample were grouped under three main broad reasons: flexibility, change and lack of choice.

Of the total sample, 68% undertook online learning because of flexibility in terms of pace, time and place. Some examples of statements were:

Freedom—I can work at my own pace.

No time constraints, can work whenever I have time.

Due to geographical constraint. I live in the rural area.

About 12% said they enrolled in online courses to experience a change from traditional delivery systems.

Just wanted a change.

I have an interest in the internet systems.

I enrolled in a pilot course and wanted to test out the online system.

About 20% of the sample said they did not have a choice in the course they were studying online because it was offered only through this mode. Among them, a few said their employer requested they completed this course online to participate in a pilot study.

Overall, the results show that the flexibility in time, place and pace are the key reasons why students enrol in online courses.

Level of expectation for pre-enrolment/enrolment services

Frequency tables were generated to examine the distribution of responses to each type of service for pre-enrolment/enrolment. The mean of each item was calculated, based on assigning 1 to low expectation and 3 to high expectation. Consequently, the higher the mean, the higher the expectation.

The items were then ranked accordingly to the mean—see table 1.

Table 1: Expectation for pre-enrolment/enrolment services

Expectation: highest to lowest	Mean
Detailed information about what is required to complete the module/course	2.80
Detailed information about the courses	2.78
Security of personal details on the institute's database	2.69
Instructions on whom to approach for help	2.59
Information on how to enrol	2.57
Instructions on how to seek help	2.55
The software and hardware requirements needed to do the course/module	2.46
Recommended library resources to support learning	2.37
A guide on minimum time required for online learning each week	2.28
Comprehensive information about the institution providing the online course	2.27
Enrolment via the internet	2.25
Ability to make changes to personal details through access by password	2.21
Electronic security measures and how to utilise them	2.12
Timetables for any workshop/orientation on using online technologies	2.06
Guide to effective learning strategies for independent learning	2.05
Option to complete the RPL via the internet	2.05
An assessment of my readiness for online learning	2.04
Advice about the level of self-motivation required for online learning	2.03
Assistance with the development of a personal learning plan	1.99
The total cost for completing each module/course	1.95
Suggestions on managing my learning	1.95
Access to student administration	1.93
Institute provider's policies on using the internet for learning	1.89
Access to institute students' services	1.86
Information about copyright obligations	1.69
Pre-enrolment counselling on my suitability for online learning	1.49
Payment of fees via the internet	1.31
A special deal with an internet service provider that is set up by the institution	1.25

There was no significant difference in responses by age.

Significant differences were noted in four of the following, with females having a higher mean than males:

- *Detailed information about what is required to complete the module/course* (t =-2.21, p=0.030). The means of males and females were 2.67 and 2.86 respectively.
- *Enrolment via the internet.* (t =2.07, p=0.040). The means of males and females were 2.03 and 2.35 respectively.
- *Security of personal details on the institute's database* (t=-2.16, p=0.030). The means of the males and females were 2.52 and 2.77 respectively.
- *The option to complete RPL via the internet.* (t=-2.00, p=0.450). The means of males and females were 1.83 and 2.15 respectively.

There was a significant difference in responses by online students who were employed and those who were not in paid employment. These differences were:

- *The total cost for completing each module/course (t=-8.42, p=0.000).* Unemployed students' mean was 3.00.
- *The software and hardware requirements needed to complete the course/module (t=-6.26, p=0.000).* Unemployed student mean was 3.00, the same as the part-time employment students mean(3.00), whereas the full-time employment student mean was t=5.88, p=0.000.
- *Security of personal details on the institute's database (t=-4.46, p=0.000).* Unemployed students' mean was 3.00.
- *Access to the institute's students services (t=-2.44, p=0.037).* Unemployed students' mean was 2.43.
- *Detailed information about what is required to complete the course/module the part-time employment.* The mean was 3.00, whereas the full-time employment student mean was t=2.95, p=0.004.
- *An assessment of readiness for online learning.* The part-time employment student mean was 2.50, whereas the full-time employment student mean was t=2.82, p=0.011.

The five services with the highest expectations for pre-enrolment/enrolment were:

- Detailed information about what is required to complete the module/course (m = 2.80)
- Detailed information about the courses (m = 2.78)
- Security of personal details on the institute's database (m = 2.69)
- Instructions on whom to approach for help (m = 2.59)
- Information on how to enrol (m = 2.57)

Other highly regarded services included:

- Instructions on how to seek help (m = 2.55)
- The software and hardware requirements needed to do the course/module (m - 2.46)
- Recommended library resources to support learning (m - 2.37)

The lowest expectations for pre-enrolment/enrolment services were for:

- Access to institute students' services (m = 1.86)
- Information about copyright obligations (m =1.69)
- Pre-enrolment counselling on my suitability for online learning (m = 1.49)
- Payment of fees via the internet (m = 1.31)
- A special deal with an internet service provider that is set up by the institution (m = 1.25)

Level of expectation for learning and teaching

The distribution of responses to each type of service for online learning and teaching was examined. The mean for each of the 34 items was calculated and then ranked in order from

highest to lowest expectation. Table 2 ranks (from highest to lowest) the sample's expectations for each type of service for online learning and teaching.

Table 2: Expectation for learning and teaching

Expectation: highest to lowest	Mean
Clear statements of what I was expected to learn	2.69
Helpful feedback from teachers	2.67
Requirements for assessment	2.65
Communication with *teachers* using a variety of ways e.g. email, online chat, face-to-face	2.65
Timely feedback from teachers	2.60
Course outline and learning outcomes	2.54
Due dates for the different tasks	2.51
The return time for assignments	2.49
Strategies for approaching assessment tasks	2.49
The way feedback is to be provided to me	2.41
Presentation of learning materials in small manageable amounts	2.37
How I could demonstrate my learning	2.36
Guide to composing assignments	2.27
Opportunities to practise skills that are being acquired	2.25
Regular encouragement by teachers	2.22
Guide on how to make my learning effective	2.21
Back-up support using telephone or faxes	2.16
Strategies for independent learning	2.07
Tips on how I would succeed in online learning	2.01
Bulletin board set up for each course	1.99
System to address student concerns	1.98
Access to frequently asked questions and responses about online learning	1.95
Web-board for discussion	1.85
Communication with *other students* using a variety of ways, e.g. email, online chat	1.84
Procedures for withdrawing from the course	1.82
Procedures for transferring from the course	1.70
Online chat room	1.66
Grievance and appeals procedures explained	1.67
Provision of suggestion box	1.64
Links to job vacancies	1.30
Working in groups	1.28
Strategies for job interviews	1.23
Access to the institute's student association	1.21
A guide to writing resumes	1.21

There was no significant difference in the responses to the items by the different age groups indicating services for learning and teaching.

Significant differences were noted in all of the following, with females having a higher mean than males:

- *Communication with* teachers *using a variety of ways, for example, email, online chat, face to face* ($t = -2.32$, $p = 0.023$). The means of males and females were 2.47 and 2.73 respectively.
- *Helpful feedback from teachers* ($t = -2.51$, $p = 0.014$). The means of males and females were 2.49 and 2.75 respectively.

- *Presentation of learning materials in small manageable amounts* (t = -2.59, p = 0.011). The means of males and females were 2.13 and 2.48 respectively.
- *Strategies for job interviews* (t = -2.54, p = 0.012). The mean was 0.92 for males and 1.35 for females.
- *Strategies for approaching assessment tasks* (t = -2.21, p = 0.029). The mean for males was 2.31 and for females, it was 2.56.
- *Guide to composing assignments* (t = -2.33, p = 0.022). The mean for males was 2.05 and for females, it was 2.37.
- *The way feedback is to be provided to me* (t = -2.60, p = 0.011). The mean for males and females were 2.16 and 2.53 respectively. There was a significant difference (t = -2.59, p = 0.035) in the expectations (for this service) by online students who were employed and those not in employment. The unemployed online students had a slightly higher mean (2.83) than the employed student (2.36).

There was a significant difference (t = -2.59, p = 0.035) in the expectations of online students who were employed and those not in employment. Those online students not in employment had a slightly higher mean (2.83) than the employed student (2.36).

Five most expected services for learning and teaching were:

- Clear statements of what I was expected to learn (m = 3.69)
- Helpful feedback from teachers (m = 2.67)
- Requirements for assessment (m = 2.65)
- Communication with *teachers* using a variety of ways, for example, email, online chat, face to face (m = 2.65)
- Timely feedback from teachers (m = 2.60)

Other highly regarded services included:

- Course outline and learning outcomes (m = 2.54)
- Due dates for the different tasks (m - 2.51)
- The return time for assignments (m - 2.49)
- Strategies for approaching assessment tasks (m - 2.49)
- The way feedback is to be provided to me (m - 2.41)

The lowest expectations for learning and teaching services were for:

- Links to job vacancies (m = 1.30)
- Working in groups (m = 1.28)
- Strategies for job interviews (m = 1.23)
- Access to the institute's student association (m = 1.21)
- A guide to writing resumes (m = 1.21)

Level of expectation for technical support

The distribution of responses to each type of service for technical support was examined. The mean for each of the 16 items was calculated and then ranked in order from highest to lowest expectation.

Table 3 ranks (from highest to lowest) the sample's expectations for each type of service for technical support.

Table 3: Expectation for technical support

Expectation: highest to lowest	Mean
Quick response to technical problems	2.34
Easy access to technical assistance	2.24
Provision of technical (IT) assistance throughout the course	2.17
Strategies for checking the accuracy/quality of information on the internet	2.09
Access to frequently asked questions and responses about technical issues	2.05
Tips on how to conduct online research	2.02
Provision of glossaries to inform me about technical online terms	1.96
Tips on how to access databases	1.90
Tips on how to use electronic reference material	1.87
Tips on how to download information	1.87
Code of conduct for online users	1.78
Guide on how to use search engines	1.72
A guide on participating in a discussion group	1.67
Net etiquette	1.64
Tips on how to attach and send files by email	1.53
Guide to using email	1.49

There was no significant difference in the mean responses for the technical support services by age, gender or employed status.

Five most expected services for technical support were:

- Quick response to technical problems (m = 2.34)
- Easy access to technical assistance (m = 2.24)
- Provision of technical (IT) assistance throughout the course (m = 2.17)
- Strategies for checking the accuracy / quality of information on the internet (m = 2.09)
- Access to frequently asked questions and responses about technical issues (m = 2.05)

The lowest expectations for technical services were for:

- Guide to using email (m = 1.49)
- Tips on how to attach and send files by email (m = 1.53)
- Net etiquette (m = 1.64)
- A guide on participating in a discussion group (m = 1.67)
- Guide on how to use search engines (m = 1.72)

Summary of survey results

Top ten services that online students expect are:

- Detailed information about what is required to complete the module/course (m = 2.80)
- Detailed information about the courses (m = 2.78)
- Security of personal details on the institute's database (m = 2.69)
- Clear statements of what I was expected to learn (m = 2.69)
- Helpful feedback from teachers (m = 2.67)
- Requirements for assessment m = 2.65)
- Communication with *teachers* using a variety of ways, for example, email, online chat, face to face (m = 2.65)

- Timely feedback from teachers (m = 2.60)
- Instructions on whom to approach for help (m = 2.59)
- Information on how to enrol (m = 2.57)

All of these services are associated with pre-enrolment/enrolment services and learning and teaching services. The mean for technical support services was considerably less starting at 2.36 which was a *quick response to technical support*.

Interviews with students

Interviewees' responses to each question were analysed according to major and minor themes. A summary of the responses is presented below. It must be acknowledged that, due to the limited response from this student group, that these interview findings are an indication only.

Most essential services for completion

Interviewees were asked to state the most essential services for the completion of their online learning programs. There were three key services that online students perceived as essential. These are listed in order from most discussed to least.

Regular contact with the teachers/tutors

Students believed that it was most essential to have regular contact with teachers and tutors as well as other students. Many said they were able to contact teachers/tutors and peers mainly through emails. The following statements are examples of responses from the interviewees:

> *Teachers that [sic] are present on a regular and continuing basis through email contact.*
>
> *Personal and frequent contact with course supervisor/tutor.*
>
> *Emails were not always answered and when they were took days to weeks to get a reply. When you are doing a course online you need to be able to have access to a tutor pretty much on the spot if you have any questions etc.*

A few students were able to make regular contact by telephone. Others said they would have liked more contact by telephone.

Quick responses from teachers/tutors

Some interviewees expressed disappointment with late or slow responses from their teachers/tutors, particularly when they perceive technology as being able to enhance the return rate and timeframes. The statement from one interviewee represents similar experiences by others.

> *Having access to course teacher/tutors is essential, in my experience it has taken me two or three days to get an answer for my questions and I have forgotten or lost interest by this stage.*
>
> *Quick responses from teachers are essential to maintain momentum with study. Long delays with responses and marking of assignments by teachers hinder and handicap study and course completion.*

One student suggested:

> *Feedback between students/teachers to be no longer than two days—frustration and lack of enthusiasm seeps in after that.*
>
> *It appears that online students recognise the capacity and ability of online technology to provide quick responses and are expecting teachers/tutors to operate quickly.*

Regular support for learning

Online students believed that regular support for learning was also essential. Teachers were expected to provide advice, directions and feedback on regular basis. Online students expected teachers to provide new information or resources such as web pages, references and networks to support online learning.

Other elements of services that were suggested as essential included access to peers (through email, phone and online chats), accurate record-keeping by teachers, and clear navigation for self-help. A range of communication strategies is available to students to communicate with teachers but not peers. One student suggested that teachers should initiate the establishment of chat rooms and facilitate scheduled discussions on a regular basis:

> *Design chat rooms for the students to support each other and for the teacher to organise regular chats with his/her students.*

One student suggested the establishment of noticeboards:

> *Forums/noticeboards are useful for asynchronous discussions—so that I can participate even though I'm not available at the right times.*

Most beneficial services for completion

The interviewees were asked to list two services that they found to be most beneficial. Most responses to this question related to teachers/tutors' assistance to online students.

> *I would have to say my tutor [name 1] from the [... campus] was excellent in providing feedback and support. Secondly, [name 2] was magic in simplifying the expectations of course participants, [name 2] was able to help me to generate options when I had run into a brick wall.*

> *Local ... tutor/supervisor has made an endeavour to forward information.*

The remaining responses related to the websites. Many students found the hyperlinks to external sites were useful. Furthermore, references and links to resources other than those contained in the learning materials were considered beneficial.

Best examples of online services

Overall, the number of responses to this question were minimal. Best examples of online services that are currently in place included the following:

- bulletin boards
- enrolment information with links to application forms
- course information including costs for each
- the option to complete the assessment online

Services that are most in need of improvement

When asked which areas of online services were most in need of improvement, comments from students focussed mostly on facilitation by teachers and technical systems.

Facilitation

The interviewees identified several shortcomings in teachers and their practices that needed improvement. The most frequent among their comments related to the delay in response from teachers. They suggested that teachers should mark assignments quickly and provide feedback to students within a reasonable timeframe (two days was suggested by one student). Many added that teachers should inform their students if they plan to take vacation.

One interviewee suggested that teachers should not be changed during the course time and wrote:

Treat like face-to-face course and not rotate teachers and confuse students.

It was also suggested that teachers give a clearer explanation of what is expected of online students. Three interviewees explained:

More explanation of what is expected of you.

Better knowledge given to students about realistic reviews/responses timeframes.

What the learning materials ask you to submit and what the tutor wants you to submit (quite often they were completely different things).

One interviewee highlighted the importance of writing the content specifically for online delivery:

Writer—very important that writers write to the appropriate audience. They need to realise that writing to online students is different to writing for a class that will be face-to-face and things can be explained.

Two comments from the interview participants indicated that students did not think their teachers/tutors were trained well for online delivery.

Staff induction to online learning. They don't seem very well-trained.

Tutors don't know what they are doing. Do the tutors know exactly what is expected of themselves?

Technical systems

A common problem that most students encountered was with attempts to refer to content materials when completing assessments. The following statements illustrate this problem that needs improvement:

When you are doing your assessments, it is handy to look back over the section you studied.... Not to get the answers, but to make sure you have included what you intended. I found I had to hit the back button more often then not and lost track of where I was going. There was a lot of switching between areas that I found time wasting.

To be able to better access learning materials whilst in the assignment pages. If you went out of the assignment page to go back to the learning materials, you lost all your work.

Being able to save work without having to submit it.

One interviewee identified a technical problem in receiving feedback from his teacher:

The other area I found was lacking was the area where you received feedback from your course facilitator. It was progressive which was good, but in the end, my facilitator would put messages in, that were not getting to me. Hence a breakdown in communication.

We relied more on emails and phone calls.

One other interviewee wrote his suggestion for easier movement through the various pages of the website:

Seamlessness from pre-course online counselling to enrolment to online learning to post-course study planning.

Some online students suggested improvement to the log-in access.

Improve log-in access—how can a student contemplate doing the courses in lunch breaks, etc. if it can take an hour to log in.

One interviewee suggested improvement to the interactive nature of the materials:

Monitor copyright of graphics in particular—having your own graphic artist that can rework the pictures. Include graphics/animation (with voiceover)/activities—not just all text.

Comments from online students illustrate their extensive level of knowledge and understanding about interactive online materials. They have explored other materials on the

worldwide web and experienced the capacities for interactiveness, hence expect similar attributes in their learning materials.

Finally, two students suggested after-hours access for technical support.

> *Having access to someone if you forget your password or for technical problems (out-of-hours).*
>
> *Immediate access to a voice on a telephone for technical support.*

In highlighting the difficulties online students encountered, they have identified key services that need to be improved to enhance online learning.

Survey of co-ordinators/teachers

Due to the limited response from the teacher/co-ordinator group (N = 12), the results can only be deemed an '*indicator*' of the group perspective.

Results of these data indicate that:

- 7 of the 12 institutions are providing comprehensive information to students about the institution as well as suggestions on managing their learning and effective learning strategies.
- 8 of the 12 have information on how to seek help and who to ask for help.
- 9 of the 12 provide costs for modules/courses, what is required to complete the course, how to enrol and security of personal details.
- 10 of the 12 provide information on software/hardware requirements needed to do the course, recommended library resources and information on access to learning materials, text books etc.
- 11 of the 12 provide detailed information about the courses.

Services to students are limited in the following areas:

- IT and internet services
- pre-enrolment services, including pre-enrolment counselling
- readiness and suitability assessment
- administrative services, including the ability to make changes to personal details through access by password, the option to complete RPL via the internet

Respondents indicated that services should be available to students in the future and a range of these will be made available to students this year, with the provision of RPL via the internet and payment of fees via the internet being highlighted by four of the institutes as a provision of the future, but after the 2001 enrolment.

Table 4: Pre-enrolment services

	Is service available?		Should service be available in future?		When, if applicable, will the service be provided in the future?	
	Yes	No	Yes	No	Before	After
1. Comprehensive information about the institution providing the online course	7	4	6	0	0	2
2. The total cost for completing each module/course	9	3	7	0	2	1
3. The software and hardware requirements needed to do the course/module	10	2	5	0	2	0
4. A special deal with an internet service provider that is set up by the institution	0	7	6	1	1	2
5. Detailed information about the courses	11	1	4	0	1	0
6. Detailed information about what is required to complete the module/course	7	5	7	0	1	2
7. Information on how to enrol	8	4	6	0	1	1
8. Enrolment via the internet	3	7	9	0	1	5
9. Payment of fees via the internet	2	8	10	0	1	6
10. Ability to make changes to personal details through access by password	3	7	8	2	1	4
11. Security of personal details on the institute's database	8	2	7	0	2	2
12. An assessment of student readiness for online learning	3	7	9	0	1	5
13. Advice about the level of self-motivation required for online learning	4	6	9	1	3	3
14. A guide on minimum time required for online learning each week	4	7	7	1	3	2
15 Assistance with the development of a personal learning plan	4	7	9	0	1	2
16. Suggestions on managing their learning	7	4	8	0	2	1
17. Guide to effective learning strategies for independent learning	6	5	7	0	0	3
18. Pre-enrolment counselling on their suitability for online learning	2	8	9	0	1	3
19. Option to complete RPL via the internet	3	7	7	0	0	5
20. Timetables for any workshop/orientation on using online technologies	3	6	8	0	2	2
21. Instructions on how to seek help	8	3	6	0	3	0
22. Instructions on whom to approach for help	8	3	6	0	3	0
23. Access to student administration	4	5	7	0	0	4
24. Access to institute students' services	3	5	7	0	2	1
25. Recommended library resources to support learning	10	1	4	0	2	1
26. Information on access to learning materials, textbooks etc.	10	2	4	0	2	0
27. Institute provider's policies on using the internet for learning	5	6	7	0	3	1
28. Information about copyright obligations	5	6	8	0	3	2
29. Electronic security measures and how to utilise them	3	9	7	0	1	2

Table 5: Learning support services

		Is service available?		Should service be available in future?		When, if applicable, will the service be provided in the future?	
		Yes	No	Yes	No	Before	After
1.	Communication with *teacher* using a variety of ways e.g. email, online chat, face-to-face	11	0	3	0	1	0
2.	Communication with *other students* using a variety of ways e.g. email, online chat, face-to-face	11	0	3	0	1	0
3.	Working in groups	8	3	2	2	2	0
4.	Timely feedback from teachers	11	1	3	0	1	0
5.	Opportunities to practise skills that are being acquired	10	0	3	0	1	0
6.	Presentation of learning materials in small manageable amounts	12	0	2	0	0	0
7.	Bulletin board set up for each course	9	0	4	0	1	0
8.	Back-up support using telephone or faxes	9	1	4	0	1	1
9.	A guide to writing resumes	5	4	1	3	0	0
10.	Strategies for job interviews	5	4	1	3	0	0
11.	Links to job vacancies	5	3	1	2	0	0
12.	Course outline and learning outcomes	11	1	3	0	1	0
13.	Strategies for independent learning	8	4	5	0	0	2
14.	Requirements for assessment	11	1	3	0	1	0
15	Strategies for approaching assessment tasks	9	2	4	0	0	1
16.	Guide to composing assignments	0	7	7	0	1	4
17.	Due dates for the different tasks	4	4	5	1	2	1
18.	The return time for assignments is adequate for feedback to students	7	1	4	0	2	0
19.	The way feedback is to be provided is useful to students	11	1	3	0	1	0
20.	Provision of suggestion box	4	7	6	1	1	2
21.	Grievance and appeals procedures explained	5	5	7	0	2	1
22.	System to address student concerns	6	5	7	0	2	1
23.	Web board for discussion	8	1	2	1	1	0
24.	Online chat room available	10	1	4	0	1	0
25.	Tips on how to succeed in online learning	5	5	8	0	2	1
26.	Procedures for withdrawing from the course	3	7	8	0	3	2
27.	Procedures for transferring from the course	2	8	8	1	2	3
28.	Access to the institute's student association	2	8	6	2	1	3
29.	Access to frequently asked questions and responses about online learning	3	6	8	1	2	2

Results of these data indicate that:

- All institutes present learning materials in small manageable amounts.
- 11 of the 12 institutes provide communication with teachers and other students in a variety of ways, and students get timely feedback from teachers; the course outline, learning outcomes and information on assessment were available; the feedback provided is useful to students and an online chatroom is available.
- 10 of the 12 institutes provide opportunities for students to practise the skills they are acquiring.
- 9 of the 12 respondents provide a bulletin board for discussion, back-up support using telephone or fax and strategies for approaching assessment.

- 8 of the 12 indicated that there was provision for working in groups, strategies for independent learning and a web board for discussion.
- 7 of the 12 indicated that the return time for assignments was adequate for feedback to students.

The data indicate that information for students is deficient in the areas of:

- guides to composing assignments, guides to writing resumes, strategies for interviews, links to job vacancies
- the provision of return dates for assignments, a suggestion box
- procedures for grievance and appeals, tips on how to succeed in online learning, procedures for withdrawal, and transferring from the course, access to the student association and access to FAQs

Table 6: Technical support services

	Is service available?		Should service be available in future?		When, if applicable, will the service be provided in the future?	
	Yes	No	Yes	No	Before	After
1. Guide to using email available to students	8	3	6	0	2	1
2. A guide on participating in a discussion group	6	4	6	0	2	2
3. Tips on how to access database	2	7	7	1	1	3
4. Guide on how to use search engines	3	7	9	0	1	4
5. Tips on how to conduct online research	5	5	6	0	1	2
6. Tips on how to download information	6	4	6	0	1	3
7. Tips on how to reference electronic material	4	5	5	1	1	3
8. Provision of glossaries to inform me about technical online terms	6	4	5	0	2	2
9. Provision of technical (IT) assistance throughout the course	5	5	7	1	1	2
10. Easy access to technical assistance	6	5	6	1	1	1
11. Quick response to technical problems	5	6	6	1	1	2
12. Net etiquette	4	6	7	0	2	2
13. Code of conduct for online users	4	6	6	1	2	1
14. Strategies for checking the accuracy/quality of information on the internet	0	7	7	1	2	2
15. Access to frequently asked questions and Responses about technical issues	5	5	5	1	2	1

Results of these data indicate that:

- 8 providers have a guide for students on using email.
- 6 have the provision of a glossary about technical online terms, a guide on participating in a discussion group, tips on downloading information and access to technical assistance.
- 5 have tips on conducting online research, the provision of IT assistance, a quick response to technical problems and FAQs.

Results indicated there were limited services provided on how to use search engines, how to access databases and strategies for checking the accuracy / quality of information on the internet. All of the respondents acknowledged that these services should be available to students, however, only some of these will be available for 2001. Services such as a guide to using search engines are planned but will not be available until after 2001.

Comments from teachers/co-ordinators

At the completion of the survey, teachers/co-ordinators were asked if they would recommend any services that should be provided. Their suggestions included the following

These responses included:

- *Self-assessments are available any time. It is recommended that the self-assessment be taken prior to enrolment.*
- *Undertaking assessment of key competencies.*
- *We are still in the writing/refining stages of our Cert II … Remember, the individual facilitator will probably take charge of reminding students about deadlines, referral to extra material etc. Let's not bog the online student down too much with information overload before he/she begins. It could put them off!*
- *We propose to recommend that our online students become computer and web literate before they undertake an online course. We don't want to incorporate internet lessons (for example, how to use a search engine) into the learning content of the course in which they have enrolled.*
- *I think an important aspect of online learning is time management since it requires students to be highly organised and self-directed … Also, the students could be given tips on how to keep motivated (e.g. provision of social space). Finally … we give students some information on ergonomics, and how to learn safely in an online environment.*

Interviews with co-ordinators/teachers

Due to the limited response rate, the following data can only be considered as indicators from this group.

The teachers/co-ordinators were asked to list three support services for online learning that they considered to be most useful to students. They were also asked to list their perceptions of why this was so.

The responses were as follows:

- *High-quality IT helpdesk or call center*: students need prompt resolution of difficulties or they lose confidence in the validity of the online learning experience. Also a forum or bulletin board is needed for FAQs.
- *Easy/convenient access to other learning resources:* links (books, software and hardware) that complement the online program. Not all resources can be provided online in a convenient and easy-to-use format. There is still a need for print/paper resources and hardware.
- *Prompt (timely) communication to resolve issues arising from the online program:* including feedback on assignments, responding to questions in relation to assessments and general and specialist concerns. This could be in the form of email, phone etc. Delays in this area are especially significant online, where students should be (need to be) in control of their rate of progress. Continuing without essential correction of misinterpretations, misinformation, incorrect assumptions and perceptions can lead to having to 'undo incorrect learning', which places a high demand on time for everyone. This includes tutorial support in relation to content and learning activities that students undertake.
- *Face-to-face or online induction*: there needs to be some kind of intensive induction program that includes the support staff, such as the content person, the lecturer, the resource developer and IT support staff.

In summary, the support services which respondents considered most useful to students include: a helpdesk with IT support, access to and communication with tutorial support, an induction program and access to learning resources.

The five services accessed most frequently by students included:

- *Support:* diverse off-line flexible learning mechanisms *in support* of the online program with facilitators being available 12 hours per day (0900–2100)
- *Access to variety of communication tools:* phone/email contact to be made available as part of the support mechanism and tutors to be in frequent contact with most students
- *Resources:* external access to simulators and specialist resources, links to State networks using WebCT, lending services for learning resources
- *Helpdesk for general assistance*
- *Induction processes:* to include skilling students in IT literacy prior to starting, self-assessment on readiness to ensure that students can operate different software like Windows and other platforms

The teachers/co-ordinators were asked to identify three limitations in their institute's current online support services. Their responses related to information technology, teaching and learning support and resources:

Information technology

- bandwidth impacting on speed of communication across the network, which can cause frustration
- capacity and availability of the student's personal computing facilities for working at home
- online environment requiring different infrastructure (some working from home), different facilitation costs and IR issues
- inherent fallibility of the IT system, for example, the chat room server will occasionally go down at a critical time; some browsers read the online material slightly differently
- inability to get automatic confirmation that emails have been received. Sometimes the email system fails and short of sending follow-up emails, there is usually no way of knowing whether an email has been delivered. Using the online system depends on regular access by the student
- some limitations in the nature and level of online access that some students have, for example, slow machines, old versions of applications
- conditions necessary for prospective online facilitators; for example, a teacher is going to be 'on call' at various times, a new lot of teacher conditions will need to be worked out specifically for the online educator

Support/teaching

- staff availability—not yet 24 hours per day, seven days per week
- online support services not perceived by senior management as a need; seen as an extra
- lecturers often not aware that the facilitation of online is a completely different ball game requiring completely different skills

Resources

- financial resources a major implication

Best practice

In response to identifying three services that could be seen as best practice examples, co-ordinators/teachers listed the following:

- positive responses (can-do attitude) to students' needs. Willingness to 'tailor' course to suit individual needs, for example, adjusting the order of modules to provide the most positive outcome for the student

- instructional design of learning materials incorporating current learning methodologies and technologies. 'Our resources have been acknowledged as leading examples by industry and statutory authorities'
- flexibility whereby students have maximum control of their learning by being able to decide when they start, their rate of progress, their choice of study methods and ability to negotiate variation to their choices. Students are able to move 'seamlessly' between online and attendance study whenever they desire
- good development methodology in educational design—vigorously going through phases to find a final product that students will use and appreciate. The whole notion of good practice in a targetted area will take a couple of years of going through it and fine-tuning it
- face-to-face induction (not online, but very relevant to online performance)
- effective tutoring in response to problems/issues/submissions etc., availability of tutors
- skills of tutors—tutors have in-depth knowledge of material and commitment to outcomes (improved management, better organisational performance), not just training

In summary, the online services indicated as best practice examples were varied. However, they tended to include the following:

- flexibility to fulfil student needs
- teaching skills and knowledge
- instructional design and educational design of resources
- induction—face-to-face

Case studies

A proforma was developed to capture details about online environments and courses at different AQF levels, in particular to identify the course details and supporting student services.

A web review was undertaken of a number of sites, including the sites of the participating teachers/co-ordinators. The case studies indicated that many online courses in the VET sector are in the experimental stages of development and in some instances courses are still being piloted. With this in mind it is premature to indicate true examples of best or innovative practice. However, some examples have been included under 'innovative practices'.

The findings of the case studies are summarised below, illustrating the differences in the services provided. The eight case studies have been presented individually and are included as appendix F (in the web edition on the NCVER website www.ncver.edu.au).

Summary of case studies

These case studies show that:

- Most online courses were at the certificate III and IV AQF level.
- There are specific teachers/tutors responsible for all the student requirements in most courses. Some have IT support and in one case a specific administration person was responsible for administrative support online and distance students.
- Courses are very industry/practically oriented, with many students working in the specific industry discipline.
- In most instances no prerequisites such as computing skills are required.
- A majority of providers requires students have a 486 PC with internet access—Internet Explorer or Netscape and Windows.
- In some circumstances the provider is linked to a central homepage which gives students access to a range of student services. However, if this is not the case, students are less able to access a variety of student services.

- Not all providers have an induction/orientation session available to students and the style of these sessions varies. Sessions are mostly online with some face-to-face interaction.
- One provider has online induction, tutorials and assessment tasks with the option of a two-day, face-to-face workshop.
- One provider requires students to attend online tutorials weekly and to perform specific assessment tasks by the network system.
- There is a range of communication modes available to students and teachers/facilitators for interaction and assistance.
- One provider assigns mentors to students.
- Most providers have an email response time (usually 24 hours) for communication between teachers/facilitators and students. This is seen as a most critical factor in the success of course. It is also fundamental to creating a sense of community and belonging.

Innovative practices

Table 7 outlines examples of the innovative practices found in this study. It is with hesitation that the term 'best practice' is used, due to the embryonic stage of online learning and the fact that these have been confined to the institutes within this study. However, the examples included in the table below provide an insight into practices being used in some of the institutions included in the study.

Table 7: Best/innovative practices

Innovative practice	Particulars of practice
1. Resources inbuilt	Resources are built into learning materials and extra resources are available by links.
2. Mentors	Students studying this agricultural course, are obliged to have a workplace mentor or coach. Students are also encouraged to use industry-related contacts as resources for their study e.g. bank managers, chemical companies etc.
3. Induction mentor and personal support	Mentors are assigned to students: students are in contact with an induction mentor to make them confident in using the software and to assist them generally.
4. Course selection criteria	Students are selected by TAFE NSW selection criteria and the course (IT) selection criteria outlined in the course information.
5. Compulsory workshop for practical skills	This IT Support course requires students attending a compulsory workshop for observation of practical skills.
	Students are required to attend online tutorials weekly and perform specific assessment tasks.
6. Similar skills in same class	In this Community Services and Health course, students with similar skills are put in the one class and are on the one site to encourage interaction.
7. Tutor monitoring	The platform used in this college enables the tutor to tell how often the students logon, what they do, what their participation was.
8. Administrative services	Online flexible delivery has administrative support (for the department and as necessary online students).

Comparison of responses between students and teachers/ co-ordinators

- Pre-enrolment: Students' expectations are consistent with the services provided by the participating institutes.
- Teaching/learning: The following indicate categorically the differences in expectation between students and teachers. The services students expects include:
  - clear instructions on what they are expected to learn

- helpful feedback from teachers
- timely feedback from teachers

By comparison, the teachers' main focus was on the provision of communication, working in groups and providing feedback to students.

- Technical support: The main expectations students have in this area are:
  - quick response to technical problems
  - easy access to technical assistance
  - strategies for checking accuracy/quality of information on the internet

By comparison, the teachers' main focus was on the provision of IT support and guidelines for use.

When summarising these findings it would appear that many of the student expectations and the provision of those services coincide, with the exception of information on requirements for assessment and quick, easy responses to technical assistance.

Interview responses

The responses in table 8 demonstrate that the provision of many of the services required by students are already in place; however, the quality or availability of services like IT support (24 hours a day, 7 days a week), learning support in the early stages and the quality of the resources are the areas that need to be improved.

Table 8: Interview responses

Area	Student response	Teacher/co-ordinator response
Essential services required for completion	❖ regular contact with teachers/tutors ❖ quick responses from teachers/tutors ❖ support for learning	Important services required for online learning are: ❖ IT help desk ❖ access to other learning resources ❖ prompt communication to resolve issues ❖ induction—whether it is online or face-to-face
Best examples of services for completion	❖ bulletin boards ❖ enrolment info. with links to application forms ❖ course info. including costs ❖ the option to complete assessment online	Services most accessed by students: ❖ support ❖ communication ❖ resources ❖ help desk ❖ induction
Services that need improving	❖ facilitation of online teaching and learning ❖ technical systems, including: feedback from teacher, easier movement through pages of website, log in access and after-hours access to IT support	Limitations of online support services, include: ❖ IT ❖ support teaching ❖ resources

Table 8 includes the essential services that students require for completion, the best examples of services for completion and services that need improving. There are some anomalies; however, since the services that students see that need to be improved are predominantly consistent with those of teachers/co-ordinators.

Comparison of student expectations and literature

A comparison has also been made between the student expectations and the literature findings, indicating considerable consistency within these areas (see table 9)

Table 9: Comparison between expectations and literature

Student expectations	Literature findings
Pre-enrolment	
❖ Information on what is required to complete the course ❖ Information about the course ❖ Security of personal details ❖ Who to approach for help ❖ Information on how to enrol	❖ Students need to know what the expectations of the course are. ❖ They need learning material to be clearly presented and their expectations defined. ❖ Provider websites have a lot of information available on courses, some with content details and other associated information. ❖ Student readiness needs to be considered, some providers/courses emphasising the need for students to have basic IT skills to start the course. ❖ There is a vast amount of literature confining the necessity of student support services in the initial stages to prepare them for the transition. ❖ Literature strongly emphasises the need for students to participate in an induction/orientation program. ❖ Most providers acknowledge the necessity of support; however, this is provided in varying degrees of quality and in various modes e.g. email, fax and phone. ❖ Many students are confronted with a range of issues and anxieties as they make the transition to online learning e.g. technology skills, IT literacy skills, the assumption that they have the skills to undertake independent learning and access to the required equipment.
Teaching/learning	
❖ Clear instructions on what they are expected to learn ❖ Helpful feedback from teachers ❖ Requirements for assessment ❖ Communication with teachers using a variety of media ❖ Timely feedback from teachers	❖ The literature also states the importance of this. ❖ The importance of accessible, timely feedback has been highlighted with a range of media (e.g. phone, fax and email) suggested. ❖ Communication using a variety of mediums has been highlighted as one of benefits of technology and one of the most crucial factors associated with completion rates.
Technology	
❖ Quick response to technical problems ❖ Easy access to technical assistance ❖ Provision of technical assistance throughout course ❖ Strategies for checking accuracy/quality of information on the internet ❖ Access to FAQs	❖ Technical issues have been recognised as one of the main issues associated with online learning. This encompasses access to the technology, using the technology, technology equipment failure, demographics etc. ❖ Effective use of the internet and research skills have been highlighted as necessary skills for online students. ❖ There is limited literature available on FAQs, however, many providers have included FAQs on their websites as a means of technology support.

Discussion

The transition of learning from the traditional classroom mode to online is an ongoing challenge. That is why online learning support is essential for successful completion of courses. There is no doubt that, throughout the research for this study, online students have highlighted key areas of support that are necessary. These key areas of support are also reaffirmed in other studies reported in the literature.

Pre-enrolment/enrolment

Services and support for pre-enrolment/enrolment and crucial for online learning. Students have highlighted this area as being the primary concern for providers, together with learning and teaching and technical assistance.

Enrolment requires user-friendly procedures and simple steps to enable students to enrol without problems. Therefore, the pre-enrolment support needs to be accessible. One interviewee demonstrated the importance of this:

I am very disappointed in the lack of support I have been getting from the start. The course was supposed to start in July and I am still *waiting for some learning material ... please tell me where to go to get started on this course.*

Experiences like this are not singular. The study completed by Harper et al. (2000) reaffirms how many students' experiences are similar. Lack of pre-enrolment/enrolment support can affect the students' motivation to even commence online courses and this can reflect badly on the course provider. Harper et al. (2000) offered some strategies to overcome this initial hurdle. These are:

- Students need to be prepared and supported through the initial stages.
- Many institutions make assumptions about the resources and access available to students.
- Organisations (can) offer a range of induction/orientation sessions to help students get started with the technology, to become acquainted with the online environment, and to understand what is expected of them.

The primary expectations for pre-enrolment/enrolment services uncovered by the survey related to the importance of providing detailed information and instructions.

The top five were:

- detailed information about what is required to complete the module/course
- detailed information about the courses
- security of personal details on the institute's database
- instructions on whom to approach for help
- information on how to enrol

These expectations demonstrate the need for user-friendly instructions and simple-to-follow guides, which are necessary components of pre-enrolment/enrolment support. Concerns were also raised about realistic timeframes. Sometimes timeframes were impossible to meet, especially when students were not prepared.

Learning and teaching

Learning and teaching is the backbone to what constitutes online delivery. The major theme amongst the responses to the interview questions focussed on the importance of total support through the entire learning and teaching process. This should be provided in numerous forms and be continuously accessible and without presenting any difficulties. Some helpful examples from students were:

- regular and prompt feedback
- email/phone/face to face regular contact
- clear navigation through the learning materials and entire course program
- constant and ready access to the actual course
- notice boards, FAQ boards, chat rooms
- consistency—same tutor, same contact details, consistent access
- online exams and course material
- references to other resources and learning materials
- reliability—on the material, teachers, server

The above list is illustrative of the importance of student support—to have the same support and facilities as 'on and off campus' students. Initially, the online student group was seen as not requiring the same support as undergraduate or VET students because they were assumed to be more mature, more independent and more self-sufficient. This is true to some degree, as the majority of online students do possess these characteristics. However, these assumptions ignore that a student is learning and therefore requires help like any other student.

The Institute for Higher Education Policy (2000), in its report included seven benchmarks for assessment of quality services. One of these, student support, mentioned the fact that services

found in the usual college campus such as admissions, student training and assistance etc. should be as accessible within the virtual environment as it is on campus.

The responses from the eleven interviewees mentioned more advanced learning materials and references to other courses. This is reflective of most of the 'seven best practice principles' listed by Peoples (1999) who commented that 'ensuring a variety of learning styles and preferences, designing interactive learning materials, and ensuring educationally driven learning' amongst their practices, as all being necessary.

The survey results support the results from the interview. The top five expectations for learning and teaching were:

- clear statements of what I was expected to learn
- helpful feedback from teachers
- requirements for assessment
- communication with *teachers* using a variety of ways, e.g. email, online chat, face to face
- timely feedback from teachers

Overall, the prevailing theme revolves around timely feedback from tutors and regular student–teacher contact through different mediums to underpin success in online learning.

Progress in areas such as these has been apparent and increasing steadily. Students who have undertaken courses via the TAFE Virtual Campus, in partnership with the Cyber School at William Angliss College in Victoria, have successfully finished modules as a result of effective learning and teaching support. Mary Stewart-Craig explained the success of the program:

> *The major factor in this success was the support given to students at a local level …Where school mentoring was strong, students excelled.* (Scott 2000, p.9)

This major theme of teaching and learning is reiterated by Brennan (2000) from the Else and Hicks (1998 cited in Brennan 2000) report, where they note that barriers such as 'low levels of tutor and mentor support' need to be overcome.

Technical

All students of online education have experienced technical difficulties. Whether it was infrequent login access, slow advancing technology, or expensive hardware, technical difficulties were experienced regularly.

Technical support expectations focussed on prompt technical service, as were the results indicated by the interview sample. The top five expectations for technical support included:

- quick response to technical problems
- easy access to technical assistance
- provision of technical (IT) assistance throughout the course
- strategies for checking the accuracy/quality of information on the internet
- access to frequently asked questions and responses about technical issues

This is illustrative of the study results found by Mason (cited in Salmon 1998) who noticed that Duke University MBA students spent most of the first term 'getting up to speed with the technology'. This comment causes concern for the provision of adequate support for many VET students who are isolated or are unfamiliar with technology.

For the student who relies on interaction with the teacher or peers, technical skills are necessary to enable the full participation which ensures passing the course. Without the technical skills necessary, they are basically helpless, with Hara and King (cited in Cashion 2000) cautioning that students drop out due to the excessive frustration caused by the technological ambiguities. Therefore technical support is essential.

Low levels of computer literacy are apparent within the mature aged students. Eighty-four per cent of the sample size are over 26 years old. The age range 26 years and over can be characterised by computer illiteracy and so technical support must be accessible in order to accommodate the students.

Conclusion

For online delivery to attain its main purpose of creating flexibility and enhancing access to learning, it is essential that providers supply the same support services to online students as are provided to traditional classroom students.

The use of information technology as a tool for enhancing flexibility and delivery forums has the potential to cater also to the needs of diverse groups of students. Accordingly, providers are using online systems in combination with other modes in order to meet these client needs. However, the precise nature of services that each provider offers to online students is rarely made public for reasons mainly relating to commercial-in-confidence. No minimum requirements or standards seem to exist for providers using online delivery. What each provider has, or is able to offer to support students depends on a number of factors, including staff expertise with technology, finances, types and numbers of students and whether infrastructure is student-centred as opposed to the traditional teacher-centered.

The stakeholders involved in this study have strongly reinforced the necessity for a range of support strategies which need to take effect from the time the student enrols. These need to be made available for the duration of the learning cycle.

The transition from traditional classroom to online learning has the potential to be an anxiety-inducing experience, and for this reason many students fall by the wayside. However, this experience can be minimised by adequately supporting students, especially in the initial stages. Feedback from students, teachers and the research indicates that students need to be well-informed of the requirements of them as students; of the course requirements and of the assessment requirements. Furthermore, the content must be easily understood, consistently presented, and sufficiently detailed to enable them to become self-directed students. They need to have ready access to and efficient responses from both IT support and academic support to alleviate frustration and to assist with time management.

The stakeholders involved in this study have also emphatically expressed the necessity of the provision of good communication between teachers and students—timely and informative feedback from teachers in response to issues, including timely responses to IT issues.

Students need to participate in a comprehensive induction/orientation program, which will address many of the problems they are likely to encounter in the early stages of their course. Many assumptions have been made about the skills possessed by students, especially IT skills, and literacy skills, and their capacity for accessing resources, including IT resources. The literature relating to online support indicates that there is a general consensus that students need to be supported with access to the same services as traditional classroom-based students. This support needs to start from the time the student enquires about the course and, while the requirement for this support usually declines over the duration of the course, it needs to be available throughout the entire learning experience.

The main requirements of students relate to pre-enrolment/enrolment support, teaching/learning support, and IT support. Each of these areas encompasses specific services within them and are outlined more generally in table 1.

Summary of findings

Student responses indicated the need for information on course and module requirements and regular communication with teachers and tutors as the underpinning priorities for successful completion of online learning. There is a lack of opportunity for students to complete all the necessary administrative procedures online.

However, the co-ordinator/teacher feedback indicated that participating institutions are providing online students with adequate information on the course material and administrative procedures, with the exception of enrolling and paying online.

Respondent teachers/tutors also highlighted a deficiency in the structures enabling students to assess their skills and suitability for undertaking online courses. This is an area that is gaining greater importance and also one being correlated with completion rates and success in flexible learning.

Providers have taken into account the importance of communication and provided students with opportunities to communicate using a range of modes between teacher and students.

Teacher/co-ordinator responses highlighted the need for self-assessment to be completed prior to enrolment along with the assessment of key competencies, one comment being, 'We propose to recommend that our online students become computer and web-literate before they undertake an online course'. These respondents also noted that students could be given tips on how to keep motivated (for example, provision of social space).

Other results of the study indicated that the key issues for RTOs to consider include:

- specific professional development for teachers/tutors who are involved in online delivery
- allocation of dedicated staff to support online students so that they are able to provide rapid response to enquiries
- establishment of guidelines and directions for online students and teachers/tutors
- establishment of the roles and responsibilities of students as well as teachers/tutors

The key issue for the VET sector is the establishment of national minimum standards for online delivery to ensure that no group of online VET students is disadvantaged.

Guidelines

Guidelines for online support and intervention strategies

As a result of the student feedback, the teacher/co-ordinator feedback and the literature search undertaken, the guidelines in table 10 have been developed. It is with some hesitation that this information is included due to the embryonic stage of online learning and the limited feedback that has been gained from online students for the study. These guidelines could be considered as minimum requirements for online support; however, those students who are less computer-literate or categorised within a disadvantaged group would possibly require additional services, for example extra academic or technical support.

In concluding this study, there is evidence that while there is considerable crossover between student expectations and the provision of services as perceived by teachers/co-ordinators, maybe the question that needs to be asked is what is level/quality of provision of these services?

Table 10: Guidelines for online support and intervention strategies

Area	Student expectations	Guidelines for support and strategies for intervention
Pre-enrolment	❖ information on what is required to complete the course ❖ information about the course ❖ security of personal details ❖ who to approach for help ❖ information on how to enrol	❖ comprehensive accessible information available on enrolment, course content, the institution, and career options ❖ information to be presented clearly and easy to navigate ❖ information to be made available in a range of modes ❖ constant and ready access to the course ❖ contact persons to be available for clarification of enrolment and course queries by email/phone/face-to-face ❖ an enrolling online webmaster to assist ❖ information on who to ask for help and how to seek help ❖ information on costs, what is required to complete the course, enrolment and security of personal details
	Strategies for intervention	❖ an enrolling online webmaster to assist or contacts to be available in a range of modes to provide guidance and assistance ❖ course information to be presented clearly and accurately with access to be course advisor
Teaching/learning	❖ clear instructions on what they are expected to learn ❖ helpful feedback from teachers ❖ requirements for assessment ❖ communication with teachers using a variety of media ❖ timely feedback from teachers	❖ comprehensive induction/orientations programs ❖ induction/orientation skills to include study skills, self-awareness of learning styles etc. and application of the study skills for these styles ❖ induction/orientation to be available in a variety of modes ❖ clear statements of what students are to learn in the course ❖ students to be allocated a mentor/contact for the duration of the course ❖ resources built into the learning material and also available in hard copy ❖ learning materials to be presented clearly and comprehensively ❖ references to other resources and learning materials within learning materials ❖ information to be presented in manageable amounts ❖ online exams and resource/course material mode available ❖ timely and helpful feedback from teachers ❖ consistency—same tutor, same contact details, consistent access ❖ notice boards, FAQ boards, chat rooms

Area	Student expectations	Guidelines for support and strategies for intervention
Teaching/learning (cont.)		❖ reliability—of material, teachers ❖ communication with *teachers* using a variety of ways e.g. email, online chat, face-to-face ❖ requirements for assessment to be clearly presented ❖ provision of communication with teachers and other students ❖ opportunities to practise skills ❖ provision of bulletin boards, telephone, fax and assessment strategies ❖ strategies for working in groups and independently
	Strategies for intervention	❖ comprehensive induction/orientation program ❖ comprehensive resources and learning materials and information ❖ allocation of a mentor ❖ teachers/mentors easily accessed ❖ frequent communication between students and teachers especially in the early stages
Technical support	❖ quick response to technical problems ❖ easy access to technical assistance ❖ provision of technical assistance throughout course ❖ strategies for checking accuracy/quality of information on the internet ❖ access to FAQs	❖ provision of technical (IT) assistance throughout the course to be available in a number of forms i.e. telephone, fax and email ❖ helpdesk ❖ response times to be stipulated for addressing technical problems ❖ easy access to technical assistance ❖ strategies for checking the accuracy/quality of information on the internet ❖ access to frequently asked questions ❖ tips on downloading information, participating in discussion groups and a technical glossary ❖ guide to using email ❖ provision of net etiquette and referencing
	Strategies for intervention	❖ students to participate in an induction/orientation program that has an introductory IT and internet component ❖ provision of technical (IT) assistance throughout the course to be available in a number of forms i.e. telephone, fax and email and 24 hours a day, seven days a week

References

ANTA (Australian National Training Authority) 1996, *National Flexible Delivery Taskforce: Final report*, ANTA, Brisbane.

—— 1997a, *Teaching and learning styles that facilitate online learning*, ANTA, Melbourne.

—— 1997b, *From desk to disk: Staff development for VET staff in flexible delivery*, ANTA, Melbourne.

—— 1998, *Australia's national strategy for vocational education and training, 1998–2003: A bridge to the future*, ANTA, Brisbane.

—— 2000, *Flexible learning for the information economy: A framework for national collaboration in vocational education and training 2000–2003* ANTA, Brisbane.

Barker, L 2000, 'Online learning—a student perspective', paper given to Networking 2000 Conference, www.flexiblelearning.net.au [accessed: July–September 2000].

Baron, J, Thiele, D & Hintz, E 1995, *Following the yellow brick road*, NCVER, Adelaide.

Bennett, S, Priest, A et al. 1999, 'Learning about online learning: An approach to staff development for university teachers', *Australian Journal of Educational Technology*, vol.15, no.3, pp.207–21.

Berge, Z 1998, *Barriers to online teaching in post-secondary institutions*, www.westga.edu/~distance/Berge12.html [accessed: July–September 2000].

Booker, D 1997, *The educational debate—a new paradigm for library and information services in the online learning environment?*, www.netways.shef.ac.uk/discuss/dibook.htm [accessed: July–September 2000].

—— 2000, *Getting to grips with online delivery*, NCVER, Adelaide.

Boote, J 1998, 'Learning to learn in vocational education and training: Are students and teachers ready for it?', *Australian and New Zealand Journal of Vocational Education Research*, vol.6, no.2, pp.59–86.

Brennan, R 2000, *All that glitters is not gold: Online delivery of education and training*, NCVER, Adelaide.

Brookfield, S 1984, 'Self-directed adult learning: A critical paradigm', *Australian Education Quarterly*, vol.35, no.2, pp.59–71.

Brown, A 1997, 'Designing for learning: What are the essential features of an effective online course?', *Australian Journal of Educational Technology*, vol.13, no.2, pp.115–26.

Brown, B 1998, 'Web-based learning: WebCT one year later', 3rd International Conference on Open Learning, Queensland Open Learning Network, Brisbane.

Byrne D & Pittwood, E 1998, *Going on line with small business education*, www.opennet.net.au/virtcon/byrne/paper.htm [accessed: July–September 2000].

Bruce, D 1998, 'Building social capital and community learning networks in community internet access centres', in *Learning communities regional sustainability and the learning society*, conference proceedings, vol.1, Centre for Research and Learning in Regional Australia, Launceston, pp.45–54.

Candy, P 1991, *Self-direction for lifelong learning*, Jossey-Bass, San Francisco.

Carroll, T & McNickle, C 2000, *Online student services report*, an online initiative within the ANTA Framework for National Collaboration in Flexible Learning in VET 2000–2004, Canberra Canberra Institute of Technology, Canberra.

Cashion, J 2000, 'Research in online education', Moving Online Conference, Southern Cross University, Gold Coast.

Choy, S & Hill, D 2000, 'Managing a case study approach in VET research to address the funding agency's criteria', paper given to the third national conference of AVETRA, NCVER, Canberra.

Cochrane, C 2000, 'The reflections of a distance student 1977–1997', *Open Learning* , vol.15, no.1, pp.17–34.

Collis, B 1996, 'Does more technology mean more choice for the student? Experiences from the TeleScopia Project', *Vocational Training: European Journal*, NR 7, Jan–April, pp.12–19.

Corben, H 1997, 'Teachers as virtual students', *Training Agenda: A Journal of Vocational Education and Training*, vol.5, no.4.

Corderoy, R & Lefoe, G 1997, 'Tips and secrets for online teaching and learning: An inside view: What works and why', paper given to 14th annual conference of ASCILITE, Curtin University of Technology, Perth.

Doctor, S. 1998, 'E-mail in tertiary counselling services: The technology has arrived but have we?', *Journal of the Australian and New Zealand Student Services Association*, 11 April, pp.32–40.

Evans, A & Deschepper, A 1998, 'Student support in an online environment', paper to *Open learning 98*, proceedings of the 3rd International Conference on Open Learning 2–4 December 1998, Brisbane.

Gee, L 2000, 'Log on to learn', *Impulse—Inflight*, November–December, pp.20–2.

George, R 1995, 'Flexible delivery: The new paradigm in higher education, *Access through open learning '95*, Southern Cross University, Ballina, NSW.

Gofers, A & James, T 1999, 'The changing role of distance education, *Open, flexible and distance learning: Challenges of the new millennium*, 14th forum of the Open and Distance Learning Association of Australia, Deakin University and Gordon Institute of TAFE, Melbourne.

Gooley, A 1998, 'Integrated online learning services for vocational education and training', paper given to 2nd Australia–Taiwan Conference on Vocational Education and Training, Chung-Li, Taiwan.

Haley, J 1999, 'Online training: Where is it at? Who is offering it? Does it really work?', *The Australian TAFE Teacher*, vol.33, no.1, p.14.

Hampton, C 1997, *Report on making sure flexible delivery works: Student services and learning resource services*, Onkaparinka Institute of TAFE, Onkaparinka.

Harper, B, Hedberg, J, Bennet, S & Lockyer, L 2000, *The online experience: A review of the state of Australian online education and training practices*, NCVER, Adelaide.

Institute for Higher Education Policy 2000, *Quality on the line: Benchmarks for success in internet-based distance education*, National Education Society and Blackboard, Washington, DC.

James, T 1998, *Literature review regarding student withdrawal and completion*, OTEN, Sydney.

—— 1999, 'Student readiness to learn via the Internet', paper to 2nd Conference of Australian VET Research Association, *Quality and diversity in VET research*, RMIT, Melbourne.

Johnstone, I 1998, *'Report on the implementation of flexible delivery and distance education: The experiences of a number of New Zealand institutions*, Canberra, Canberra Institution of Technology.

Le Cornu, P 2000, 'Using online technology in a flexible learning centre', Moving Online Conference, Southern Cross University, Gold Coast.

Long, H & Associates 1992, *Self-directed learning: Application and research*, Oklahoma Research Centre for Continuing Professional and Higher Education of the University of Oklahoma, Oklahama.

McKavanagh, C 1999, 'Educational frameworks for the development and evaluation of web-based learning', *Australian Vocational Education Review*, vol.6, no.1, pp.44–52.

McLendon, E & Cronk, E 1999, 'Rethinking academic management practices: A case of meeting new challenges in online delivery', *Journal of Distance Learning Administration*, vol.2, no.1, Spring.

McNickle, C 1999a, *Flexible delivery: Induction strategies and support for student success*, Canberra Institute of Technology, Canberra.

—— 1999b, *Flexible delivery: Induction strategies and support for student success: What does* the *literature say?*, Canberra Institute of Technology, Canberra.

Mildon, F 2000, 'Successful delivery of web based e-learning', *Networking 2000 online*, http://203.30.161.226.8900/NW2K/main/key02 [accessed: July 2000].

Misko, J 1999, 'Different modes of delivery: Student outcomes and students' perspectives', AVETRA, Melbourne.

—— 2000, *The effects of different modes of delivery: Student outcomes and evaluations*, NCVER, Adelaide.

Mitchell, J & Bluer, R 1997, *A planning model for innovation: New learning technologies*, OTFE, Melbourne.

Murphy, C 1998, 'Helping the virtual student: Teaching and learning information literacy ompetencies', *Pathways to learning*, 5th Biennial Conference and Exhibition of the Australian Library Information Association, Canberra.

O'Connor, P B 2000, 'E-learning and students with disabilities: From outer edge to leading edge', speech given at *Networking 2000, Online*, www.//203.30.161:8900/NW2K/main/key04.htm [accessed: 3 November 2000].

Palfreeman, A 1998, 'The internet and distance learning: Interaction and information', *Literacy Broadsheet*, 49.

Peoples, K 1999, 'Online learning: Seven best practice principles', *The Australian TAFE Teacher*, vol.33, no.2, pp.10–12.
Pittman, L 2000, 'Keeping quality in the picture', *Campus Review*, March 1–7, p.12.
Prisk, D 1998, 'The Marshall Plan for online learning', *Open learning '98*, 3rd International Conference on Open Learning, Brisbane.
Project Management Team 2000, *Online student services (Strategy 2000—Project 3/12.1, project executive plan*, CIT, WestOne, TAFE Tasmania, Office of Vocational Education and Training, Canberra.
Salmon, G 1998, 'Student induction and study preparation online', Telematics in Education Seminar, Joensuu, Finland.
Salmon, G 1999, Teaching and learning online in an established distance university business School', Online Learning Conference, Amsterdam.
—— 2000, *E-moderating: The key to teaaching and learning online*, Kogan Page, London.
Sanders, P & Rosenfield, M 1998, 'Counselling at a distance: Challenges and new initiatives', *British Journal of Guidance and Counselling*, vol.26, no.1, pp.5–10.
Scott, W 2000, 'Cyber learning', *Australian Training Review*, no.36, Oct./Nov./Dec., p.9.
Smith, P 2000, 'Flexible delivery and apprentice training: Preferences, problems and challenges', *Journal of Vocational Education and Training*, vol.52, no.3, pp.483–503.
Smith, P & Smith, S 1999, *The internationalisation of vocational education and training*, NCVER, Adelaide.
Snewin, D 1999 'Internet delivery for VET sector students at UniSA', *Quality and diversity in VET research*, 2nd Australian VET Research Association Conference, RMIT, Melbourne.
Sturgill, A, Martin, W & Gay, G 1999, 'Surviving technology: A study of student use of computer-mediated communication to support technology education', *International Journal of Educational Telecommunications* , vol.5, no.3, pp.239–59.
Twyford, K 1999, 'Supporting students in a flexible learning environment: Can it be managed better?', *Quality and diversity in VET research*, 2nd Australian VET Research Association Conference, RMIT, Melbourne.
van Stavaren, L, Beverley, S & Bloch, B 1999, Student support in flexible delivery, Vocational Education and Assessment Centre, Sydney
Warner, D, Christie, G & Choy, S 1998, 'The readiness of the VET sector for flexible delivery including online learning, EdNa-VET Working Group, ANTA, Brisbane.
Webb, G (ed.) 1998, 'Internet-based training: Do students like it as much as trainers think they should?', *VET research: Influencing policy and practice*, AVETRA, Sydney.
Webb, G & Gibson, J 2000, 'Three years down the track: What has worked, what hasn't—a review of a 100% online delivery program in TAFE NSW', *Future research, research futures*, the 3rd annual conference of the Australian Vocational Education and Training Research Association, 23–24 March 2000, Canberra, ACT.
Wheeler, L 1999, 'Report: Maximising online learning', presented to 'Edutech' Exhibition, RMIT Learning Network and ANTA Core Toolbox, Brisbane.
Williams, G, Lord, B et al. 1997, 'Enhancing student learning through online support', *Fascilite 97*, Curtin University of Technology, Perth.

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ISBN 1 74096 050 5 print edition
ISBN 1 74096 051 3 web edition

Appendices

A Procedures for the study

B Student survey

C Co-ordinator's questionnaire

D Students' interview questions

E Teachers' interview questions

F Case study proforma

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Appendix A: Procedures for the study

Results of web review and other databases of online providers

An environmental scan of online provision of VET has been undertaken. Chief executive officers of private and public VET providers were contacted and asked if they would be willing to participate in the study and to nominate a contact person. In many circumstances this required follow-up phone calls and subsequently correspondence with the nominated contact person. The web review included EdNA VET, TAFESA Online, WestOne, TAFE Queensland Online, Online @TAFE Tasmania, TAFEVC (Virtual College, Victoria), TAFE NSW, PETE (Office of Post-compulsory Education, Training and Employment), NTIS (National Training Information Service of ANTA), among others. Where needed, interviews have been undertaken with some online providers (public and private).

Contact with training providers

An initial letter was forwarded to directors of online VET training providers seeking their support for the research and for the name of a liaison person to be a contact point for the project team. Brief discussions with key staff responsible for online delivery within RTOs were held to obtain feedback on the range of services currently on offer to online students.

The pilot study

Permission was sought from the director of one VET institute currently offering online courses to pilot the survey questionnaire with online students. A liaison person from this institute provided the research team with a database of 50 online students.

The feedback from 22 participants conclusively indicated no difficulty with the interpretation of the wording of the items in the survey instrument. However, an additional question to note whether the online students were currently employed was included in the final version of the questionnaire. The findings from this question added more information about the nature of students. Preliminary analysis of the data was conducted to determine whether the results informed the research questions. It was found that the results did inform the research questions. These results have been included in the findings.

Survey instrument

A survey instrument was designed for data-gathering from online students. Section I gathers background information about the respondents. Section II contains 28 items designed to explore the level of expectation of services relating to pre-enrolment and enrolment. Section III has 37 items relating to services for online learning and teaching and section IV has 17 items pertaining to services in technical support. At the end of section IV, respondents are also given space to write any comments regarding their expectations of services not previously mentioned.

Survey with students

The purpose of the survey with online students was to explore their level of expectation for a range of services relating to pre-enrolment, online learning and teaching, and technical assistance. A questionnaire was developed and respondents were asked to rate their level of expectation against each item. The items originated from a review of literature on student support services for pre-enrolment, online learning and teaching, and technical assistance. The questionnaire was structured into four sections. Section I was designed to collect background information about the respondents. The remaining three sections focussed on pre-enrolment, online learning and teaching and technical support. There were 28 items to be rated for pre-enrolment; 34 items for online learning and teaching; and 16 items for technical support. Each item had a Likert-type scale ranging from 0 to 3 (0 = Not expected; 1 = Low; 2 = Moderate; 3 = High) to indicate the level of expectation. At the end of section IV, respondents were also given space to write any comments regarding their expectations of services that were not mentioned in sections II–IV. They were also invited to participate in interviews and given an option to select a face-to-face or online session.

Survey of providers

The purpose of the survey with teachers/providers was to gain an insight into the level of support services available to online students prior to their commencement in an online course. These services ranged from pre-enrolment, technical services, studying online and general and administrative information. Respondents were also asked if the service was not available now, whether it should and would be available in the future and if the service would be available before or after the 2001 intake. Section 1 of the questionnaire for providers was designed to gather such information.

Section II of the questionnaire focussed on the possible online learning and teaching support services available to students participating in online courses. Again, these questions related only to the online courses the teachers/co-ordinators were involved with. The respondents were asked whether the service was available, if not, whether the service would be available in the future (being before or after the 2001 intake).

Section III focussed on technical support, outlining the possible technical support services available to students participating in online courses. Again, this only related to the online courses with which they were involved. The teachers/co-ordinators were asked if the service was available, and if not whether the service should be available and if so would it be available before or after the 2001 intake.

The respondents were invited to participate in interviews and given an option of completing this online, via telephone or face-to-face.

Interviews with students

After the survey data were analysed, a proforma was developed to interview those students who had volunteered to participate. There were four items in the proforma. The draft proforma was piloted to develop the final version. In total, 11 online students participated in the interviews.

Interviews with co-ordinators and teachers

A proforma was developed to interview those course co-ordinators and teachers who had volunteered. There were four questions on the proforma. In total, seven co-ordinators expressed interest in participating in the interviews.

Case studies

A web search was undertaken to examine a range of courses at AQF levels by a number of the participating institutions. This did not provide the depth of information required and it was therefore explored through discussion with co-ordinators.

Two case studies were completed from each State. It was apparent that the VET sector is in a transition mode into online learning and that many providers are still piloting courses and/or are in the very early stages of the provision of online learning.

Procedures for the survey with students

Data-collection for this project began with the establishment of a database of online VET providers. Members of the project reference group, representatives of the EdNA VET Advisory Group and the research team's networks assisted with this task. Furthermore, searches of the internet were also conducted to update the list of online providers of vocational education and training.

The directors of online providers were formally invited to participate in the project by allowing the researchers access to students, course co-ordinators and teachers. The directors were requested to nominate a liaison person to assist the research team with scheduling the survey and interviews with minimum disruptions. In return for their contributions each participating online provider was offered a copy of the results for their institution and an instrument they could use to measure their students' level of satisfaction with services for pre-enrolment, online learning and teaching, and technical support. A copy of the instrument is contained in appendix D.

The liaison person for each provider was consulted to confirm the protocols for the survey and interviews and access the student group. There were two approaches to distributing the survey questionnaire:

- Some liaison persons provided the research team with a database of online students at their institute. The liaison persons informed their students about the survey and requested their participation in this study. The research team then emailed a letter, together with the survey questionnaire to each individual by separate email, ensuring confidentiality. The team maintained a record of responses that were received and was able to send reminders to those who were late in sending their completed questionnaires.
- Other liaison persons offered to administer the questionnaire themselves and asked the participants to send the responses directly to the project officer. The research team maintained a record of the number of responses from each institute and informed the liaison person about this. The liaison persons were then requested to send out reminders to late respondents.

Of the two approaches, the first was more successful even though the database of online students that was provided by the institutes had some errors in email addresses; students who had withdrawn; or had students who transferred from online to other mode of delivery. While the liaison persons who assisted the research team tried to assist as best they could, due to their work commitments, the process took much longer than expected.

The survey participants were requested to return their completed questionnaires to the project officer within a week. The project officer's contact details were provided to each participant in case they needed clarification about the study. At least five online students demanded to know how the project officer was able to access their email address and sought further details about the purpose of the study.

Reminders were sent to those who had not responded by two weeks. The reminder email requested responses within a week. Most of the students who were approached responded by the due dates. At the end of the three weeks, the project officer contacted individuals who did not respond at all and asked for their reason(s) for not participating. The project officer explained to them the need to record such information for the purpose of the research project. Only a few respondents did not reply to the email requesting their reason for not

participating; most of the others said they were too busy with work commitments as they were approaching the end of the year.

Overall, it was found that the participants were very co-operative and open with their comments. An added advantage in using the email for the survey was that respondents could be accessed easily if they missed responding to any of the questions in the survey. Furthermore, it was possible to clarify any comments they wrote at the end of the questionnaire on receipt of their responses. The project officer sent a thank you note to each individual who responded.

Procedures for interviews with students

Among students who volunteered to participate in the interviews for this study, all except one preferred online interviews. The interviewees were offered synchronous or asynchronous interviews. All of them preferred asynchronous interviews explaining that they would be able to take time to think about their responses and also be able to complete the proforma during breaks from work or other activities.

A letter explaining the purpose of the interview, together with the proforma was emailed to each volunteer. They were requested to return their responses within a week. As the interview period was close to the end of the year (December 2000), several reminders had to be sent to encourage the interviewees to respond.

The responses to the proforma were read daily. The project officer contacted individuals whose responses needed clarification or elaboration, just as in an interview situation. All of the respondents who were approached obliged with such requests.

Procedures for survey with co-ordinators/teachers

The co-ordinators'/teachers' questionnaire and letter were emailed to 23 co-ordinators in different institutes on 14 November. They were asked to circulate the letter and survey to their colleagues and to return the survey within two weeks.

The co-ordinators were asked if they would be willing to be interviewed. They were requested to include their name and email address in the returned responses.

As of 11 December, only seven responses had been received and of these, four had agreed to take part in the interview. They were asked if they would prefer to be interviewed via telephone or have the questions emailed to them. All preferred the email option.

Another seven teachers were sent the questionnaire and the letter on 11 December and they were also asked to circulate the questionnaire to their colleagues involved with online learning. They were asked to return the survey by 22 December.

In summary, the data collection from the teachers/co-ordinators has been very time-consuming with the return rate and data collected from this being most disappointing. While this lack of input can be partly attributed to the timing of the data collection, there is a lot of data being collected nationally from the same individuals, a situation which could be making enormous demands on this group. These online teachers are also grappling with many other issues associated with online teaching. In conjunction with other demands this could well be too much for this target group.

Procedures for interviews with co-ordinators/teachers

When teachers/co-ordinators were sent the questionnaire, they were asked if they would be willing to take part in an interview or focus group. Volunteers provided their email addresses for interviews.

Again the response was disappointing and of the 12 responses to the questionnaire, only seven co-ordinators/teachers were willing to be interviewed. Five of the seven preferred to be sent the questions by email, one chose to be interviewed face-to-face and one declined to be interviewed due to *commercial in confidence*.

It should be noted that, due to the geographical diversity of the respondents and the stakeholder preferences, interviews were carried out instead of focus groups. Again, due to the poor response rate these data can be seen as 'indicators' of the target group.

Data analysis

All quantitative data was analysed using the SPSS computer software. The response to each question was coded (0–3, reflecting the Likert-type scale). Frequency tables were generated to examine the distribution and patterns of responses. The analyses of the survey data were mostly descriptive in nature. To explore the differences in responses by the variables age and sex, t-tests were calculated.

Limitations of the study

Although focus groups were planned for this project and several volunteers were approached to schedule these, the research team was unable to conduct any sessions because it was not convenient for participants to attend the sessions during the months of November and December 2000, and January 2001. Hence, interviews using emails were conducted.

It should be noted that the number of learner participants was limited and this should be considered when reading the discussion and conclusions of the study. This factor should also be considered because the learner sample was largely made up of mature-aged, employed people and as a result has a potential to bias the findings towards this group.

The lack of response from a larger number of teachers/co-ordinators could be attributed to the timing of the questionnaire, with the busy end of year commitments, especially the commitments of online teachers and the demands on this sector with all the research being undertaken in this particular area at this time. The lack of a wide spectrum of stakeholders to participate in research, especially practitioners, is possibly an aspect that needs to be reviewed by funding bodies. Other research teams (for example, those who presented at the Open Learning Conference 2000) also commented on the difficulty of getting practitioners to be involved in aspects of VET research. However, it must be remembered that online delivery is a very new area and is in the developmental/experiential stages, making many of the practitioners reluctant to disclose information due to the *competitive environment and commercial in confidence*.

With the issues raised above in regard to practitioner feedback, it is appropriate to include common issues in the findings of a paper by Choy and Hill (2000) presented at the AVETRA conference, 'Managing a case study approach in VET research to address the funding agency's criteria'. This paper highlighted issues facing researchers as they gathered information from the VET sector:

- Even during times said to be most convenient for participants, responses from them were not always received by due dates largely because their opportunities to participate were limited due to their operating in a highly commercial environment and they were constrained by time commitments.
- The problems associated with access were: extent of networks; willingness of staff to participate and support the project; limits of openness; payoff/remuneration for participation; convenience in terms of time.
- Other sensitivities included: negotiation of access; confidentiality; commercial-in-confidence; limits of openness; use of pseudonyms; right of review; interpretation of data; extent and nature of publications; purposes of data collection and implications of the project's final outcomes to the individual participants and their institutions.

Appendix B: Student survey

Section I

There are 11 questions in this section that seek background information about you. Please respond to all the questions by placing an X in the appropriate box(es) or typing words in the spaces provided. This section would take about two minutes of your time.

1. Please indicate your gender by placing an X in the appropriate box?

	Male		Female

2. By placing a X against one of the following, please indicate the age group you belong to:

	15–20 yrs		21–25 yrs		26–30 yrs
	31–35 yrs		36–40 yrs		Over 40 yrs

3. Which of the following target groups do you identify with (You may place X against more than one group if this applies):

	Disabled
	Aboriginal or Torres Strait Islander
	Culturally and linguistically diverse background (Non-English-speaking background)
	Rural or regionally isolated
	None

4. Please state the name of the institution providing the online course that you are currently enrolled in. _____

5. Place an X against one of the following to indicate the level of qualification you are pursuing through your current online studies.

	Certificate I
	Certificate II
	Certificate III
	Certificate IV
	Diploma
	Advanced Diploma

6. Place an X in one of the boxes indicating what your study intentions are.

	To complete the whole course
	To complete some module / subjects
	Undecided at this stage

7. Please list the name(s) of courses you are currently studying online?
(e.g. Certificate III Aged Care; Diploma of Information Technology etc.)

_____

_____

_____

8. Please state the number of years or months you have been taking online courses?

	years		months

How many modules have you already completed through online delivery? ☐

9. Place an X against <u>one</u> of the following to indicate where most of your online learning takes place.

	Home only
	Workplace only
	Mostly at home and the rest at my workplace
	Mostly at the workplace and the rest at home
	Computer centre at the institute where I am enrolled
	Other (please describe the place) _____ _____ _____

10. Why did you choose to undertake your course / module online instead of the more traditional method of classroom learning?

1. _____

_____

_____

2. _____

_____

_____

Are you currently employed?

Yes ☐ Part-time ☐ Full-time ☐ No ☐

Thank you very much for completing this section. Please proceed to section II

Section II: Pre-enrolment/enrolment-related information

This section describes a range of support services that could be available to you before you begin your online course. Looking at each service described please place a number between 0 and 3 in the column next to each item to indicate your level of expectation for this service (3 = high, 2 = moderate, 1 = low). Place '0' if this service is not expected by you as an online student.

[Level of expectation 3 = High, 2 = Moderate, 1 = Low, 0 = Not expected

Type of service	Level of expectation
Comprehensive information about the institution providing the online course	
The total cost for completing each module/course	
The software and hardware requirements needed to do the course/module	
A special deal with an internet service provider that is set up by the institution	
Detailed information about the courses	
Detailed information about what is required to complete the module/course	
Information on how to enrol	
Enrolment via the internet	
Payment of fees via the internet	
Ability to make changes to personal details through access by password	
Security of personal details on the institute's database	
An assessment of my readiness for online learning	
Advice about the level of self-motivation required for online learning	
A guide on minimum time required for online learning each week	
Assistance with the development of a personal learning plan	
Suggestions on managing my learning	
Guide to effective learning strategies for independent learning	
Pre enrolment counseling on my suitability for online learning	
Option to complete RPL via the internet	
Timetables for any workshop/orientation on using online technologies	
Instructions on how to seek help	
Instructions on whom to approach for help	
Access to student administration	
Access to institute students' services	
Recommended library resources to support learning	
Institute provider's policies on using the internet for learning	
Information about copyright obligations	
Electronic security measures and how to utilise them	

Thank you for completing this section. Please proceed to section III.

Section III: Online learning and teaching

Section III contains 34 items that relate to online learning skills. Place a number between 0 and 3 in the column next to each item to indicate your level of expectation for the type of support stated in the item (3 = High, 2 = Moderate, 1 = Low). Place '0' if this service is not expected by you as an online student.

[Level of expectation 3 = High, 2 = Moderate, 1 = Low, 0 = Not expected]

Type of service	Level of expectation
Communication with teachers using a variety of ways e.g. email, online chat, face to face	
Communication with other students using a variety of ways e.g. email, online chat	
Working in groups	
Timely feedback from teachers	
Helpful feedback from teachers	
Regular encouragement by teachers	
Opportunities to practise skills that are being acquired	
Presentation of learning materials in small manageable amounts	
Bulletin board set up for each course	
Back-up support using telephone or faxes	
A guide to writing resumes	
Strategies for job interviews	
Links to job vacancies	
Course outline and learning outcomes	
Clear statements of what I was expected to learn	
How I could demonstrate my learning	
Guide on how to make my learning effective	
Strategies for independent learning	
Requirements for assessment	
Strategies for approaching assessment tasks	
Guide to composing assignments	
Due dates for the different tasks	
The return time for assignments	
The way feedback is to be provided to me	
Provision of suggestion box	
Grievance and appeals procedures explained	
System to address student concerns	
Web-board for discussion	
Online chat room	
Tips on how I would succeed in online learning	
Procedures for withdrawing from the course	
Procedures for transferring from the course	
Access to the institute's student association	
Access to frequently asked questions and responses about online learning	

Thank you for completing this section. Please proceed to section IV.

Section IV: Technical support

Section IV has 16 items that relate to technical support to assist with your learning. Place a number between 0 and 3 in the column next to each item to indicate your level of expectation for the type of support stated in the item (3 = High, 2 = Moderate, 1 = Low). Place '0' if this service is not expected by you as an online student.

[Level of expectation 3 = High, 2 = Moderate, 1 = Low, 0 = Not expected]

Type of service	Level of expectation
Guide to using email	
A guide on participating in a discussion group	
Tips on how to access databases	
Guide on how to use search engines	
Tips on how to conduct online research	
Tips on how to download information	
Tips on how to attach and send files by email	
Tips on how to use electronic reference material	
Provision of glossaries to inform me about technical online terms	
Provision of technical (IT) assistance throughout the course	
Easy access to technical assistance	
Quick response to technical problems	
Net etiquette	
Code of conduct for online users	
Strategies for checking the accuracy/quality of information on the internet	
Access to frequently asked questions and responses about technical issues	

Is there any information or services that you expected would be provided, that has/have not been covered in the previous sections?

_____

_____

_____

_____

Please provide your name and email address if you would be interested in participating in an interview or focus group discussion about online learning services.

Thank you for taking the time to complete the survey. Please email this file to sarojni.choy@detir.qld.gov.au.

Appendix C: Co-ordinators' questionnaire

Section I: Pre-enrolment/enrolment-related information

The table below outlines a list of possible support services available to students prior to their commencement in an online course. These questions relate only to the online course you co-ordinate. In the first column, please indicate (please tick) whether the support service is currently available. In the second column, please indicate whether you believe this service should be provided in the future (please tick). If the service is not currently provided and you intend to provide it in the future please tick the closest date provided.

Type of service	Is service available?		Should service be available in future?		When, if applicable, will the service be provided in the future?	
	YES	NO	YES	NO	BEFORE	AFTER
1. Comprehensive information about the institution providing the online course						
2. The total cost for completing each module/course						
3. The software and hardware requirements needed to do the course/module						
4. A special deal with an internet service provider that is set up by the institution						
5. Detailed information about the courses						
6. Detailed information about what is required to complete the module/course						
7. Information on how to enrol						
8. Enrolment via the internet						
9. Payment of fees via the internet						
10. Ability to make changes to personal details through access by password						
11. Security of personal details on the institute's database						
12. An assessment of student readiness for online learning						
13. Advice about the level of self-motivation required for online learning						

Type of service		Is service available?		Should service be available in future?		When, if applicable, will the service be provided in the future?	
14.	A guide on minimum time required for online learning each week						
15	Assistance with the development of a personal learning plan						
16.	Suggestions on managing their learning						
17.	Guide to effective learning strategies for independent learning						
18.	Pre-enrolment counselling on their suitability for online learning						
19.	Option to complete RPL via the internet						
20.	Timetables for any workshop/orientation on using online technologies						
21.	Instructions on how to seek help						
22.	Instructions on whom to approach for help						
23.	Access to student administration						
24.	Access to institute students' services						
25.	Recommended library resources to support learning						
26.	Information on access to learning materials, textbooks etc						
27.	Institute provider's policies on using the internet for learning						
28.	Information about copyright obligations						
29.	Electronic security measures and how to utilise them						

Thank you for completing this section. Please proceed to section II.

Section II: Online learning and teaching

The table below outlines a list of possible teaching and learning support services available to students participating in online courses. These questions relate only to the online course you co-ordinate. In the first column, please indicate (please tick) whether the support service is currently available. In the second column, please indicate whether you believe this service should be provided in the future (please tick). If the service is not currently provided and you intend to provide it in the future please tick the closest date provided in the third column.

Type of service	Is service available?		Should service be available in future?		When, if applicable, will the service be provided in the future?	
	YES	NO	YES	NO	BEFORE	AFTER
1. Communication with teacher using a variety of ways e.g. email, online chat, face to face						
2. Communication with other students using a variety of ways e.g. email, online chat, face to face						
3. Working in groups						
4. Timely feedback from teachers						
5. Opportunities to practise skills that are being acquired						
6. Presentation of learning materials in small manageable amounts						
7. Bulletin board set up for each course						
8. Back-up support using telephone or faxes						
9. A guide to writing resumes						
10. Strategies for job interviews						
11. Links to job vacancies						
12. Course outline and learning outcomes						
13. Strategies for independent learning						
14. Requirements for assessment						
15 Strategies for approaching assessment tasks						
16. Guide to composing assignments						
17. Due dates for the different tasks						
18. The return time for assignments is adequate for feedback to students						
19. The way feedback is to be provided is useful to students						
20. Provision of suggestion box						
21. Grievance and appeals procedures explained						
22. System to address student concerns						
23. Web-board for discussion						
24. Online chat room available						
25. Tips on how to succeed in online learning						
26. Procedures for withdrawing from the course						
27. Procedures for transferring from the course						
28. Access to the institute's student association						
29. Access to frequently asked questions and responses about online learning						

Thank you for completing this section. Please proceed to section III.

Section III: Technical support

The table below outlines a list of possible technical support services available to students participating in online courses. These questions relate only to the online course you co-ordinate. In the first column, please indicate (please tick) whether the support service is currently available. In the second column, please indicate whether you believe this service should be provided in the future (please tick). If the service is not currently provided and you intend to provide it in the future please tick the closest date provided in the third column.

Type of service	**Is service available?**		**Should service be available in future?**		**When, if applicable, will the service be provided in the future?**	
	YES	**NO**	**YES**	**NO**	**BEFORE**	**AFTER**
1. Guide to using email available to students						
2. A guide on participating in a discussion group						
3. Tips on how to access database						
4. Guide on how to use search engines						
5. Tips on how to conduct online research						
6. Tips on how to download information						
7. Tips on how to reference electronic material						
8. Provision of glossaries to inform me about technical online terms						
9. Provision of technical (IT) assistance throughout the course						
10. Easy access to technical assistance						
11. Quick response to technical problems						
12. Net etiquette						
13. Code of conduct for online users						
14. Strategies for checking the accuracy/quality of information on the internet						
15. Access to frequently asked questions and responses about technical issues						

Are there any services that you think should be provided, that have not been covered in the above sections?

Please provide your name and email address if you would be interested in participating in an interview or focus group discussion about online learning services.

Name	
Email address	

Thank you for taking the time to complete the survey. Please email this file to
cathy.micnickle@cit.act.edu.au

Appendix D: Students interview questions

Interview Questions for Students

Reflect on your online course experiences so far and answer the following questions:

1. From your experience, what online course support is absolutely essential in assisting you to complete the course with positive outcomes? Please explain why?

2. Please describe two most beneficial support services provided for your current online course? How do these assist you in your learning?

3. List three best examples of online services provided by your institute.

4. Please describe services for online learning that need to be improved.

Appendix E: Teachers' interview questions

Interview Questions for Teachers

1. List three support services for online learning that you consider are most useful to students? Why do you believe this is so?
2. Please list at least 5 services you currently provide that are accessed most frequently by students.
3. Please list 3 limitations you perceive in your institute's current online support services?
4. List 3 examples of online services by your institute that you believe are best practice examples.

Appendix F: Case study proforma

Describe online course

Institution (name)	
Subject/program (name)	
Staff (teachers/designers)	
• How many staff are employed?	
• What are their roles?	
Students	
• How many students are currently enrolled?	
• Any descriptives available?	
Hardware	
• What type of hardware is used or provided (computers, telecommunication equipment)?	
Software	
• What type of software is used?	
Application	
• What are the specific practices in this online course? How is the course offered?	
Course details	
• What are the specific details of the practices in this online course	

Provision of services	Offered online	Offered paper-based	
• What pre-enrolment services are offered?			
• What enrolment services are offered?			
• What induction or orientation is offered?			
• What enrolled student services are offered?			
• What level of personal support is available?			
• What level of face-to-face support is available?			
• What level of academic support is available?			
• What learning resources are available?			
• What library services are available?			
• What technology support is available?			
• What administrative services are available?			
• What other student services are available?			

Appendix G: Individual case studies

Case study 1

Institution	Box Hill TAFE
Subject/program	Cert III in Animal Studies—Veterinary Nursing Has been running for a year
Staff (teachers/designers)	
• How many staff are employed?	6 teachers
• What are their roles?	6 teacher/tutors have a combination of roles: delivering content in the classroom, giving individual help (both in the classroom and through mail), helping students work online, marking assignments and doing workplace assessment (for practical tasks) as all students are working.
Students	
• How many students are currently enrolled?	Last year there were approx. 75, they haven't enrolled this year yet.
• Any descriptives available?	All students are working. They have the lower level Cert II or are doing this skill level work.
Hardware	
• What type of hardware is used or provided (computers, telecommunication equipment)?	486 computer with more than 8Mb RAM, screen resolution of 800x600, ISP, 28.8 K modem
Software	
• What type of software is used?	Windows 95, web browser for Netscape or Explorer, WP
Application	
• What are the specific practices in this online course? How is the course offered?	Offered online. Students get resource booklets for the modules. They need basic computer skills and are able to use the internet. Most students come in on campus and get help with the content and do supervised tests.
Course details	
• What are the specific details of the practices in this online course	• Suitable for vet nurses who have completed Cert II in Animal Studies (or have equivalent skills). • Assessment details are briefly outlined • RCC/RPL information available

Provision of services	Offered online	Offered paper-based	
• What pre-enrolment services are offered?			Email address of administration person available on the web. Other information available online includes costs, details on enrolling. The online application is an expression of interest and enrolment is paper-based as payment is not available online yet.
• What enrolment services are offered?			Course information, content outline, how they will learn, what they need, course sample. Email can be used for any other queries.
• What induction or orientation is offered?			None at this stage
• What enrolled student services are offered?			Information is available face-to-face with an Introduction on: • study support • counselling • disability liaison • student welfare • employment • student activities • careers
• What level of personal support is available?			Students are able to access face-to-face assistance.
• What level of face-to-face support is available?			As above
• What level of academic support is available?			Facilitators can be emailed or phoned for study support.
• What learning resources are available?			
• What library services are available?			
• What technology support is available?			
• What administrative services are available?			

Provision of services	Offered online	Offered paper-based	
• What other student services are available?			Information on: • employment • Centrelink • commercial services including: bookshop, college printing, restaurant, hairdressing, IT services, fitness
• What learning resources are available?			Resources are print-based. Extra information like photographs etc. are available online. Self-help quizzes are online (for self assessment), to be attempted before student does a test.
• What library services are available?			All of the usual in-house library facilities are available to students. Distance students can have books sent.
• What technology support is available?			Assistance available by phone/email
• What administrative services are available?			There is an administrative assistant specifically responsible for online and distance students.
• What other student services are available?			Childcare Counselling—career/personal/study Support services Job seeking

Case study 2

Institution	TAFE NSW – OTEN (Open Training and Distance Education Network)
Subject/program	Certificate IV in Information Technology—PC Support. This course is being replaced in Semester 2, 2001
Staff (teachers/designers)	
• How many staff are employed?	Average 6–7 on a needs basis
• What are their roles?	Senior head teacher—management Course co-ordinator—student cohort and teachers Subject managers—responsible for teaching subjects
Students	
• How many students are currently enrolled?	50–60 each year are enrolled
• Any descriptives available?	Limited numbers can be enrolled, so the students are selected by the TAFE NSW selection criteria and the course selection criteria. The prerequisites are specified in the course information.
Hardware	
• What type of hardware is used or provided (computers, telecommunication equipment)?	NT server running Netscape Enterprise Web Server, LiveWire scripts and Infomix database. Students need a 486 with a modem, ISP account and a range of subject specific material. All are required to have a second PC to pull apart, make a network and to re-format the hard disk at a low level.
Software	
• What type of software is used?	Microsoft Office and analysis tools like Norton Utilities
Application	
• What are the specific practices in this online course? How is the course offered?	95% online. Students have to attend a compulsory workshop for observation of practical skills.
Course details	
• What are the specific details of the practices in this online course	The course provides the foundation skills for people entering the IT industry. Students learn the basic set-up and use of computer equipment and software. People who complete this course should be able to work at a Helpdesk or in PC Support in a medium-to-large organisation.

Provision of services	Offered online	Offered paper-based	
• What pre-enrolment services are offered?			Advice is available by phone, fax, email or face-to-face for: counselling, career advice. The corporate website also provides all the ancillary information. Printed information is sent to students.
• What enrolment services are offered?			Online applications are available or they can be mailed out. Students can enrol face-to-face, by mail. Information can be gained by phone, fax etc. and payment made by credit card.
• What induction or orientation is offered?			A one-day to be compulsory. This enabled the students in the program to get started straight away. They covered topics like submission of assignments, logging on, completion of the enrolment process etc.
• What enrolled student services are offered?			• counselling • career advice • OTEN has a big section on disability support • equity support • ATSI support
• What level of personal support is available?			Distance students usually access assistance by telephone and from 2001 services will be available online.
• What level of face-to-face support is available?			As above. All available if students travel to Sydney.
• What level of academic support is available?			Teachers are available by email. Forums were set up but got very little use as many of the students are working. There are guidelines that state that teachers are to check their email every day and to respond within 24 hours, however, they do better than this. Students have to check their emails every 2 days and respond within 24 hrs.
• What learning resources are available?			All resources are included online for downloading.
• What library services are available?			They have a lending agreement with all the libraries in the State. The resources include comprehensive learning guides, which are built for self-paced learning. OTEN doesn't have any books for lending.
• What technology support is available?			Teachers provide the first line of support. There is a technical support officer available to look after the server and to support the teachers.

Provision of services	Offered online	Offered paper-based	
• What administrative services are available?			All queries are directed to the teachers.
• What other student services are available?			The co-ordinator would send out a weekly newsletter to students via email to keep students up-to-date. Students found this very useful and made them feel part of the group.

Case study 3

Institution	Sheppard Consulting
Subject/program	Certificate IV in Frontline Management (Frontline Online™)
Staff (teachers/designers)	
❖ How many staff are employed?	1 staff member currently deals with online specifically.
❖ What are their roles?	The same person is the author of the most of the learning material, was involved in the design of online delivery and is the tutor for online students.
Students	
• How many students are currently enrolled?	24 (in the four separate programs)
• Any descriptives available?	Four groups of students at different stages of frontline management training.
Hardware	
• What type of hardware is used or provided (computers, telecommunication equipment)?	Platform is WebCT version 3; access to computer with access to web, browser (Explorer or Netscape).
Software	
• What type of software is used?	WebCT platform incorporates Word with some graphics, later versions will include animation and streaming audio.
Application	
• What are the specific practices in this online course? How is the course offered?	Students need to keep in contact with their tutor. The platform enables the tutor to tell what students do, how often they login and their general participation etc.
Course details	
• What are the specific details of the practices in this online course	Text in short bursts, this is interspersed with a lot of activities which can be used as a part of assessment. Two key things to consider to enhance success are: contact with students and creating a sense of community.

Provision of services	Offered online	Offered paper-based	
• What pre-enrolment services are offered?			There are some pre-enrolment services available by telephone and face-to-face e.g. counselling.
• What enrolment services are offered?			Available on website, email or paper-based, telephone and face-to-face information is available
• What induction or orientation is offered?			The program involves induction workshops face-to-face. They use JTI (similar to Myers-Briggs) which they elaborate on during the Induction sessions so students can understand the impact of their personality type in issues such as communications, learning, management styles and change. They also walk through the website and give students a readiness quiz and a needs analysis questionnaire. This also can be used as a performance indicator. They also include code of practice, ethics etc. in the induction.
• What enrolled student services are offered?			Online tutoring through a range of modes for all IT/academic issues Counselling is available online.
• What level of personal support is available?			Support is available via a range of mediums—telephone, email, face-to-face.
• What level of face-to-face support is available?			• IT • academic • counselling
• What level of academic support is available?			Support available via telephone, email or face-to-face and a response to the problem/query is made within 24 hours.
• What learning resources are available?			The college is working on this aspect from the copyright perspective and the practical application of online resources. It is proposed to have selected material (excerpts, articles etc) available online.
• What library services are available?			There is a limited library available to internal students or students who can access the library if they are in Adelaide.
• What technology support is available?			Support available via telephone, email or face-to-face and response within 24 hours.

Provision of services	Offered online	Offered paper-based	
• What administrative services are available?			The online activities that students complete and which receive general feedback. Each unit of competence is broken into convenient number of Topics. Each topic has several activities, and one quiz. This is a 10-question quiz, and students have to do this before they go on to the next topic. Students get email feedback for activities, and can access their quiz score as soon as they complete and submit them. Each unit has a work-based learning project/assessment activity that must be completed to gain satisfactory assessment. The tutor assesses/evaluates and records all this material. Topics have a number of quizzes and some of these can make up part of the assessment, which also usually includes a written submission the same as the traditional classes.
• What other student services are available?			• some career guidance • counselling • mentoring/coaching

Case study 4

Institution	Southern Queensland Institute of TAFE – Warwick campus
Subject/program	Certificate IV in Agriculture (Rural Business Management) ONLINE
Staff (teachers/designers)	
• How many staff are employed?	1 co-ordinator. Depending on the numbers; 2 more in the future
• What are their roles?	1 to co-ordinate, tutor etc. and the future will tutor
❖ **Students**	
• How many students are currently enrolled?	8 so far
• Any descriptives available?	No prerequisites
Hardware	
• What type of hardware is used or provided (computers, telecommunication equipment)?	486 computer with access to the internet—Netscape, Explorer. Students can enrol and access course through OLI as they have facilities for those who don't have their own computers.
Software	
• What type of software is used?	Windows
Application	
• What are the specific practices in this online course? How is the course offered?	TAFEQLD Online (TQOL) administers the course. Teaching support by SQIT– Warwick Campus
Course details	
• What are the specific details of the practices in this online course	This course is designed to meet industry market needs in all sectors of the agricultural sector to enable efficient and effective management of agricultural business. The course consists of 15 units online—375 nominal hours. The new packages are 4 points short of the Cert IV, so students can gain this by choosing any electives out of the Agriculture/Horticulture package.

Provision of services	Offered online	Offered paper-based	
• What pre-enrolment services are offered?			Information can be accessed by email, fax and phone. The homepage is self-explanatory and TAFEQLD sends an extensive email to students. Costs of units available. Information on enrolling available. Information on RPL available. Enrolling online available.
• What enrolment services are offered?			Entry to courses and how to apply.
• What induction or orientation is offered?			The online package provides an introduction etc which explains all the details of studying online.
• What enrolled student services are offered? ❖			A list of student service contacts including: • employment services • web board discussion • disability counsellors • learning support staff and services
• What level of personal support is available?			Students are encouraged to have a coach or mentor in the workplace. A chat line is available for queries.
• What level of face-to-face support is available?			Assistance is available if students are in Warwick.
• What level of academic support is available?			Learning support services are available online. Assistance is also available by phone, fax, or email. Email queries have a 4-day turnaround time. Formative assessment exercises are in the learning materials. Students are encouraged to use people in industry, workplace and community as resources for their study.
• What learning resources are available?			Resources are built into the resources. Some exercises require contacting appropriate industry contacts etc. e.g. bank managers, chemical companies etc.
• What library services are available?			Library services online include: • books online • copyright issues • digital libraries • citations, journals etc • employment
• What technology support is available?			Available via phone, fax, email. They also have a contract with UNISYS and they provide support.

Provision of services	Offered online	Offered paper-based	
• What administrative services are available?			All queries go to the co-ordinator
• What other student services are available?			A range of services are also included on the OLI homepage. TAFE QLD Online provides information on a list of student services: • counselling: personal, educational and vocational • job placement • resource teachers for study skills etc • library network

Case study 5

Institution	TAFE NSW – Dubbo campus
Subject/program	Food Safety Systems This module can be run as a commercial course independently or can be part of level III or IV in Hospitality. TAFE NSW is just starting to do online delivery and this is one of the first modules to be piloted. This unit has been piloted in-house only and is being set up now for Semester 1, 2001.
Staff (teachers/designers)	
• How many staff are employed?	2 staff on a part time basis, with a support person
• What are their roles?	Both facilitating and an institute-based support person
Students	
• How many students are currently enrolled?	5 now, there were 12.
• Any descriptives available?	Students need to have done a prerequisite Hygiene module and need to have some computing skills.
Hardware	
• What type of hardware is used or provided (computers, telecommunication equipment)?	A level of hardware was stipulated and this needs to be heeded to.
Software	
• What type of software is used?	Internet access—Netscape or I. Explorer I. Explorer 4 works better.
Application	
• What are the specific practices in this online course? How is the course offered?	Course offered flexibly or face-to-face
Course details	
• What are the specific details	All assignments go towards assessment, which results in the students producing samples of food safety for a manual.

Provision of services	Offered online	Offered paper-based	
• What pre-enrolment services are offered?			None at this stage
• What enrolment services are offered?			Not at this stage
• What induction or orientation is offered?			There is an online manual or students can complete a face-to-face session for a day. This will depend on the student group and the geographical locations of them.
• What enrolled student services are offered?			Mostly face-to-face and available at a TAFE nearest the student. Information available via phone, fax and face-to-face; counseling—career and personal; library services; independent learning centers
• What level of personal support is available?			Information available on the following: • equity issues • counselling • careers
• What level of face-to-face support is available?			As above
• What level of academic support is available?			Phone, fax and email to co-ordinators Daily email
• What learning resources are available?			Resources are built-in and are available in hardcopy.
• What library services are available?			Available face-to-face, but not needed for this module.
• What technology support is available?			This will be part of the institute's responsibility. Queries go to the co-ordinators initially then to another contact, yet to be decided.
• What administrative services are available?			Enrolments and other queries etc. all through the co-ordinators.
• What other student services are available?			Not at this stage—development in the very early stages still.

Case study 6

Institution	TAFE SA – Gilles Plains campus, Torrens Valley Institute
Subject/program	Community Services and Health; common competencies in Community Services INF2 and ADMIN 2 (training packages). Certificate III in Community Services (Community Work), (Disability), (Leisure and Health), (Aged Care) and (Child Studies). Mixed-mode delivery
Staff (teachers/designers)	
• How many staff are employed?	5 facilitators
• What are their roles?	Develop content, put together course online, facilitate and assess
Students	
• How many students are currently enrolled?	200 for Semester 1, 2001
• Any descriptives available?	No prerequisites, entry-level course
Hardware	
• What type of hardware is used or provided (computers, telecommunication equipment)?	Standard computer with access to internet at a reasonable speed. The website provides a detailed outline of the requirements, including costs, ISP, support, connection speed, PPP and access.
Software	
• What type of software is used?	WebCT version 3.1. Provides details of requirements—TCP set up, web browser and email.
Application	
• What are the specific practices in this online course? How is the course offered?	Students with similar skill levels are in the one class and are in the one site to encourage interaction. Course offered mixed mode, however if necessary it can be delivered online. Students can access the material using the library facilities. Two-thirds of the students have home access.
Course details	
• What are the specific details of the practices in this online course	This module covers basic information handling skills in the workplace as well as basic administration duties. Also covers basic computing and internet skills, and optional study skills.

Provision of services	Offered online	Offered paper-based	
• What pre-enrolment services are offered?			Mostly face-to-face. There is the provision of a quick start guide to getting online; this provides information on studying online, software requirements, hardware requirements, internet and public internet access etc.
• What enrolment services are offered?			Email, phone and face -to-face provision, after which they are sent information. Courses can be paid for by credit card for distance students.
• What induction or orientation is offered?			Students are encouraged to attend an Induction session. This is self-paced and they are orientated to Web CT etc. Some attend through asynchronous communication once the course has commenced.
• What enrolled student services are offered?			There is a full range of student services available.
• What level of personal support is available?			Lecturer's name, email, phone, fax and postal address are included. Queries and issues are responded to within 24 hours.
• What level of face-to-face support is available?			Students can make appointments to meet with the tutor by phone etc.
• What level of academic support is available?			Learning support lecturers are available to any students. Students make an appointment by phone etc.
• What learning resources are available?			The facilitators try to provide resources through links on other websites. Books etc can be sent out.
• What library services are available?			Click on learning resources or homepage to access.
• What technology support is available?			Basically internet ISP or contact lecturer, who are supported through helpdesk. Most problems are associated with logging in.
• What administrative services are available?			Admin officers are available through phone/email. Queries regarding enrolment, results etc. go to the lecturer.

Provision of services	Offered online	Offered paper-based	
• What other student services are available?			• bulletin board for interaction with other students. • student services homepage lists services. • chat and email also available • other services include: • counselling • course information • learning support • student association • child care • financial assistance • employment services

Case study 7

Institution	TNQITAFE is the course provider, TAFEQLD ONLINE is the TAFE Queensland Internet Gateway
Subject/program	Certificate IV in Small Business Management
Staff (teachers/designers)	
• How many staff are employed?	1
• What are their roles?	Mentoring, assessment
Students	
• How many students are currently enrolled?	40 spread across QLD, NSW (1) and Vic (1)
• Any descriptives available?	No prerequisites
Hardware	
• What type of hardware is used or provided (computers, telecommunication equipment)?	486 computer with access to the internet—Netscape, Explorer. Students can enrol and access course through OLI as they have facilities for those who don't have their own computers
Software	
• What type of software is used?	Word processing package—Windows
Application	
• What are the specific practices in this online course? How is the course offered?	Totally online; offered flexibly in paper base as well.
Course details	
• What are the specific details of the practices in this online course	Nearly everyone is an owner of a small business or planning on going into small business (majority of them are women). The course is administered by TAFE QLD Online. Teaching support by Tropical North Queensland Institute of TAFE—Cairns

Provision of services	Offered online	Offered paper-based	
• What pre-enrolment services are offered?			Pay online and enrol, online details sent to student how to access etc. Information can be accessed by email, fax and phone. The homepage is self-explanatory and TAFEQLD sends an extensive email to students. Costs of units available. Information on enrolling available. Information on RPL. Enrolling online available.
• What enrolment services are offered?			Mostly online on TAFE QLD Online website. TAFE Queensland's new internet student self-enrolment (ISSE) system allows students to: • search for modules or competencies that are available • pay online • complete the enrolment application • select their own modules
• What induction or orientation is offered?			Not aware of any
• What enrolled student services are offered?			Information is available on a number of topics through the TAFE Queensland homepage and includes: • sexual harassment • student facilities and services • credit/advanced standing/RPL • enrolments • disability services • fees and charges • financial assistance
• What level of personal support is available?			Teachers respond very quickly to student queries/issues (the same day or at least within 24 hours).
• What level of face-to-face support is available?			
• What level of academic support is available?			Content—email or phone. Teacher gets some details from students to see where they live.
• What learning resources are available?			All are in built into the resources.

Provision of services	Offered online	Offered paper-based	
• What library services are available?			Library services online include: • books online • copyright issues • digital libraries • citations, journals etc. • employment
• What technology support is available?			Webmaster—TAFE QLD Online helps them.
• What administrative services are available?			Can find out by email to teacher.
• What other student services are available?			TAFE QLD Online provides information on a list of student services: • counselling—personal, educational and vocational • job placement • resource teachers—study skills etc. • library network

Case study 8

Institution	Northern Melbourne Institute of TAFE
Subject/program	Northern Online Professional Development
Staff (teachers/designers)	
• How many staff are employed?	5
• What are their roles?	1 co-ordinator 4 mentors
Students	
• How many students are currently enrolled?	15
• Any descriptives available?	
Hardware	
• What type of hardware is used or provided (computers, telecommunication equipment)?	Online services are used for delivery. Users have a PC with internet access.
Software	
• What type of software is used?	First Class and TAFEVC
Application	
• What are the specific practices in this online course? How is the course offered?	Online induction, online tutorials and assessment tasks; option of face-to-face workshop of 2 days.
Course details	
• What are the specific details of the practices in this online course	Students are required to attend online tutorials (weekly) and perform specific assessment tasks.

Provision of services	Offered online	Offered paper-based	
• What pre-enrolment services are offered?			Information provided by website. Help desk support to assist with enrolment and access.
• What enrolment services are offered?			Help desk support is given during induction period.
• What induction or orientation is offered?			Online students are in contact with an induction mentor to make the student confident in using the software.
• What enrolled student services are offered?			Continuation of helpdesk support, assigned a mentor, use of online computer lab (if they reside locally and are able to attend campus).
• What level of personal support is available?			Students are assigned a mentor to assist them.
• What level of face-to-face support is available?			Minimal face-to-face is required, but where possible, students are able to have face-to-face support.
• What level of academic support is available?			Experienced online staff as co-ordinator and in mentor roles.
• What learning resources are available?			Online courseware; courseware also has links to be accessed via the internet.
• What library services are available?			Not required
• What technology support is available?			Online help desk
• What administrative services are available?			Online flexible delivery has admin support (for department and as necessary online students).
• What other student services are available?			This is a fee-for-service course for which no other student services are available (or necessary).

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ISBN 1 74096 050 5 print edition
ISBN 1 74096 051 3 web edition

U.S. Department of Education
Office of Educational Research and Improvement (OERI)
National Library of Education (NLE)
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